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ABSTRACT

This series of lesson plans and activities deals with the economic demise of the now-defunct Soviet Union. Each of the five lessons and six activities addresses identified standards and benchmarks from the Voluntary National Content Standards in Economics. The lesson plans also address the National History Content Standards, in terms of both the study of the eras of world history and the study of economic history. Although the lesson plans are intended for high school students, the relevant K-4 and 5-6 benchmarks are also listed, for two purposes: (1) understanding of the knowledge and concepts found in K-4 and 5-8 benchmarks is necessary for achievement of the grade 12 benchmarks; and (2) review of the lower level benchmarks can help teachers more clearly identify conceptual building blocks. Lesson plans are: "Lesson 1: Opportunity Cost: The Soviet Choice for Growth: A Journey of Choices"; "Lesson 2: Missing Markets and Missing Prices: What Difference Does a Market Make?"; "Lesson 3: Incentives Matter: The Firm in the Soviet Economy: Why Would Anyone 'DO' That?"; "Lesson 4: Private Property Rights: Failure on the Farm: Why Should I Care?"; "Lesson 5: Transaction Costs: Life in a Soviet Household "Na Levo" When Acting within the Law Is Inconvenient"; "Activity 6: Applying the Lessons of the Soviet Union"; and "Unit Conclusion: Conclusion, Glossary and Bibliography." (BT)

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Economic Demise of the Soviet Union

Introduction

Each of the five lessons and six activities that follow addresses identified standards and benchmarks from the Voluntary National Content Standards in Economics (available for viewing and downloading for free by clicking here.)

Although the lessons are intended for high school students, the relevant K-4 and 5-8 benchmarks are also listed, for two purposes:

Understanding of the knowledge and concepts found in the K-4 and 5-8 benchmarks is necessary for achievement of the grade 12 benchmarks.

Review of the lower level benchmarks can thus help teachers more clearly identify conceptual building blocks.

If teachers have reason to feel confident that students have met the lower level benchmarks in earlier classes, they know what knowledge and understandings may reasonably be assumed before beginning the lessons on the economic demise of the Soviet Union.

It is important to note that these lessons intend only to address the listed standards and benchmarks, and should not be considered sufficient in and of themselves as vehicles for students to meet the requirements of the standard.

It should also be noted that The Economic Demise of the Soviet Union addresses the National History Content Standards, in terms of both:

- study of the eras of world history, and
- study of economic history.

The Lessons

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Lesson 1: Opportunity Cost: The Soviet Choice for Growth - A journey of choices.

Lesson 2: Missing Markets and Missing Prices: What difference does a market make?

Lesson 3: Incentives Matter: The Firm in the Soviet Economy - Why would anyone DO that?

Lesson 4: Private Property Rights: Failure on the Farm - Why should I care?

Lesson 5: Transaction Costs - Life in a Soviet Household "Na Levo" When acting within the law is inconvenient.

Activity 6: Applying the Lessons of the Soviet Union

Unit Conclusion: Conclusion, Glossary and Bibliography

Lesson 1
Opportunity Cost: The Soviet Choice for Growth

Key Economic Concept: Opportunity Cost

Related concepts:

Scarcity	Capital Goods
Choice	Consumer Goods
Communism	

Content Standards and Benchmarks (1, 3 and 15):

Standard 1: Students will understand that: Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

Benchmarks: *Students will know that:*

- Whenever a choice is made, something is given up. The opportunity cost of a choice is the value of the best alternative given up.
- Scarcity is the condition of not being able to have all of the goods and services one wants. It exists because human wants for goods and services exceed the quantity of goods and services that can be produced using all available resources.
- Like individuals, governments and societies experience scarcity because human wants exceed what can be made from all available resources.
- Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.
- The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.
- Choices made by individuals, firms, or government officials often have long-run unintended consequences that can partially or entirely offset the initial effects of their decisions.

Standard 3: Students will understand that: Different methods can be used to allocate goods and services. People, acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.

Benchmarks: *Students will know that:*

- No method of distributing goods and services can satisfy all wants.
- There are different ways to distribute goods and services (by prices,

command, majority rule, contests, force, first-come-first-served, sharing equally, lottery, personal characteristics, and others), and there are advantages and disadvantages to each.
- Scarcity requires the use of some distribution method, whether the method is selected explicitly or not.
- There are essential differences between a market economy, in which allocations result from individuals making decisions as buyers and sellers, and a command economy in which resources are allocated according to central authority.
- People in all economies must answer three basic questions: What goods and services will be produced? How will these goods and services be produced? Who will consume them?
- National economies vary in the extent to which they rely on government directives (central planning) and signals from private markets to allocate scarce goods, services, and productive resources.
- Comparing the benefits and costs of different allocation methods in order to choose the method that is most appropriate for some specific problem can result in more effective allocations and a more effective overall allocation system.

Standard 15: *Students will understand that:* **Investment in factories, machinery, new technology, and the health, education, and training of people can raise future standards of living.**

Benchmarks: *Students will know that:*

- Economic growth is a sustained rise in a nation's production of goods and services. It results from investments in human and physical capital, research and development, technological change, and improved institutional arrangements and incentives.
- Historically, economic growth has been the primary vehicle for alleviating poverty and raising standards of living.
- Economic growth creates new employment and profit opportunities in some industries, but growth reduces opportunities in others.
- Investments in physical and human capital can increase productivity, but such investments entail opportunity costs and economic risks.
- Investing in new physical or human capital involves a trade-off of lower current consumption in anticipation of greater future production and consumption.
- The rate of productivity increase in an economy is strongly affected by the incentives that reward successful innovation and investments (in research and development, and in physical and human capital).

Lesson Theme: The history of the Soviet Union, like the history of any nation, can be viewed as a series of choices and the opportunity costs that resulted from those choices.

Student Activity: *A Journey of Choices*
This two part activity will ask students to examine 5 major events in Soviet history (such as signing the Nazi Non-Aggression Pact, for example) to introduce the concept of opportunity cost. They will identify the considered alternatives at the time of decision and the perceived benefits of each alternative, and the corresponding opportunity costs. The second part of the activity asks students to apply their developing understanding of opportunity

cost to the "Journey of Choices" they make as they live a typical school day.

Key Points:

1. Scarcity - All economies face the constraints of scarcity - that there are only limited resources to satisfy unlimited human wants and needs.
    - Available (and limited) natural resources, labor, and capital must be used to produce a mix of consumer goods and producer goods.

2. All choices, whether they are made by individuals or by groups of individuals such as governments, have a cost associated with them; economists call this an Opportunity Cost.
    - Opportunity cost is the value of the benefits of the foregone alternative, of the next best alternative that could have been chosen, but was not.
        - Another way to look at it is that "choosing is refusing;" one choice can only be accepted by refusing another.

3. All societies face these choices about use of resources for production and consumption, and as a result, all bear opportunity costs.
    - In market economies, choices about production and consumption are made primarily by individuals interacting in markets.
        - The costs of these choices are borne by individual producers and consumers.
    - In centrally planned economies like that of the Soviet Union, choices about resource use, production and consumption are made by government leaders.
        - However, in these economies, it is generally the citizens, rather than the government leaders / decision-makers, who bear the economic opportunity costs.

4. It is instructive, for our purposes, to look at the history of the Soviet Union as a series of choices.
    - In examining each historical period, we want to ask:
        - What were the alternatives?
        - What choice was made? and by whom?
        - What benefits / costs resulted from this decision? Who bore the costs of this choice? Who reaped the benefits?
        - Why were those who bore the cost willing to do so? (and/or what happened if they were not willing?)

5. To begin, we look first at one of the legs of our 3-legged table, the moral-cultural system of the Russian people.
    - Even before the Communist Revolution, Russia was expansive and Russian rulers - and the Russian people themselves - shared a sense of pride in being the center of an empire, of ruling over surrounding countries and cultural groups.
        - The expansionism of the czarist regimes melded nicely with the prevailing post-Revolutionary world view in both the Leninist and Stalinist periods - that the Soviet Union would be the epicenter of an enlarging communist world.
        - It is important not to underestimate how important this cultural perspective was in gaining and maintaining citizen

support for communist policies.
    - The strength of the moral-cultural leg and the willingness of Russian people to believe the system would eventually deliver on its promises helped to sustain the system even when the economy faltered.

6. Communist revolutionaries could not escape the constraints of scarcity, and despite their ideals, were immediately and continually faced with the necessity of making choices about production and consumption. Inevitably, these choices bore opportunity costs. In many cases these costs were much higher than even the communist leaders anticipated.
    - Ideals of socialism, as developed by Marx and Engels, contained few specifics.
        - They focused on a utopian state where everyone was equal and satisfied.
        - Marx assumed that only labor could produce value, not land or capital. Since owners of land and capital received part of the value of output it followed that they must be stealing it from labor.
        - Marxism was a theory of stages; socialism was to succeed the most developed stages of capitalism.
    - Lenin was immediately faced with the reality of socialism.
        - The Communist Party came to power in underdeveloped and backward Russia, rather than in an advanced western capitalist economy.
        - The constraints of scarcity were glaringly apparent and demanded immediate decisions.
        - Lenin's Bolshevik's were a small group that seized power due to the disruption of World War I, they chose to rely on force and violence to consolidate their power.
    - As history clearly records, Lenin's choice was to emphasize two priorities:
            - to promote rapid economic development by stressing heavy industry, and
            - to produce the military might necessary to consolidate power.
        - The method chosen by Lenin was to control prices (particularly in agriculture) and to control foreign trade.
    - The benefits of this choice were reaped by Lenin and the leadership of the party, in that they were further able to consolidate their power.
    - The opportunity cost of this choice was primarily borne by the peasantry.
        - Government forced reductions of agricultural prices and restrictions on foreign trade reduced agricultural income and the buying power of the peasantry.
        - Also, availability of consumer goods was drastically reduced.
        - Agricultural production fell significantly.
            - Between 1860 and 1913, Russia was one of the largest exporters of agricultural goods and was called "the granary of Europe;" by the 1970s, the Soviets were heavily dependent on imported wheat.

        - Soviet citizens lost much economic freedom:
            - Freedom to choose what they consumed.
            - Freedom to choose where to live and what to do for a living.
        - Their willingness to bear this cost rested on a combination of
            - fear or unwillingness to resist coercion,
            - suppressed consumer expectations and limited choices,
            - inability to perceive other choices,
            - the opportunity to see progress around them in the industrial sector,
            - persistence of the dream of empire, and
            - acceptance of the goals and philosophy of the Revolution.
            - (It would be a mistake to underestimate the power of the last 2.)
    - To return to the 3-legged table analogy: The political and economic backwardness of pre-Revolution czarist life for most peasants meant that the political-legal and economic legs of Lenin's "3-legged table" held comparative promise for many.
        - The communist dream and the legacy of empire, rejuvenated by government proclamations, provided a moral - cultural strength that allowed the Communists to triumph.

7. The Stalinist period found governing officials facing the same economic constraints of scarcity. Stalin, like Lenin, had to make choices about the use of resources for production and consumption.
    - Stalin chose to force the collectivization of agriculture and to drastically increase investment in heavy industry.
        - Stalin waged a brutal and bloody campaign to herd the peasants onto cooperatives and requisition their harvests.
        - More and more of the economy was brought under government planning, prices were set, and private property was abolished.
        - The government enforced mass movement of people and other resources to specific projects.
    - The benefit of this forced investment in industry was a rapid (but unbalanced) economic growth in the late 1920s.
        - During the First Five Year Plan (1928-33), the economy grew 48%.
        - Producer goods grew 113%.
        - Electric power grew 227%.
    - The opportunity costs were, again, borne by the citizens, especially the peasantry.
        - Consumer goods production grew only 1%.
        - Livestock production declined 58%.
        - Government became increasingly secretive, coercive and unresponsive to Soviet citizens. Millions of people were either killed or imprisoned during Stalin's purges.
        - Personal and economic freedom were increasingly curtailed.
    - High growth rates held through the 1930s and 1940s, and Stalin

maintained his choices in the economic sphere, placing heavy emphasis on capital goods and military production, with the resultant benefits and costs:

- The Soviet Union was able to withstand the onslaught of Nazi Germany in W.W.II and continue a heavy military emphasis during the 1950s and 60s.
  - Important benefits were to reinforce the dream of empire and the willingness of the populace to bear costs.
  - Gratitude to the government for defeating the Nazis lifted spirits even higher.
  - Forced emphasis on specific sectors of the economy was well suited for accelerated growth of those sectors at the expense of others (often agriculture).
  - This provided the opportunity for heavy investment in space exploration and military innovation.
  - The emphasis on capital and military goods necessitated a producer goods / consumer goods choice that all but ignored the consumer.
- The willingness of citizenry to bear costs continued, sustained by a combination of fear and belief.

8. By the late 1950's, the economic gap between the USSR and the West had begun to widen; Soviet leadership for investment over consumption continued to impose heavy opportunity costs on consumers.
   - Continued emphasis on industrial and military production perpetuated low living standards for the masses of the people.
     - Immediately following W.W.II, life for the average Soviet citizen was so miserable that any improvement seemed significant. Rapid growth during the 1950s and 60s allowed for some increases in consumption levels from those of the 1930s and 40s and these increases purchased years of legitimacy and genuine support for the system.
     - By the 1970s and 80s, consumption production was virtually flat; the standard of living of the average Soviet citizen did not change and prospects for future wealth seemed less promising.
   - In addition, advances - technological, economic, and military - were smaller than in the past.
     - After 1957, the Soviet economy began to slow down.
     - Average 6% annual growth rates in the 1950s slowed to under 2% in the 80s.
       - This slow down is put into perspective when we realize that investment spending remained extremely high and that it was fueled by the huge oil revenues the Soviet Union received as a result of high world petroleum prices.

9. In hindsight, the beginning of the end is apparent by the early 1980s. Despite strictly enforced central planning, the Soviet system began to look as if it were out of control.
   - The costs of negotiating and monitoring transactions among firms and regions became extraordinarily high.

- While innovation in production techniques and new product development was providing much of the rest of the world with higher quality products at lower prices, and was producing a virtual revolution in computer and information technology, the Soviet Union was stalled with out-dated production techniques, decades-old machinery, and inefficient communication.
- The system that had borrowed western technology to fuel its industrial growth seemed incapable of entering the new information age.
- Agricultural output, in spite of heavy investments by Khrushchev and Brezhnev, was declining annually.
- The western free world was moving farther and farther ahead, not only in much desired consumer goods, but also in the showcase areas of military strength and space technology.
    - Afghanistan defeat
    - Reagan's "Star Wars" defense.

10. Perestroika was a last attempt to shore up a failing system, but by the mid 80s, too many legs of the 3-legged table were wobbling.
    - Economic reforms and renewed attempts to increase the growth rate couldn't head off continued problems:
        - The time and expense of negotiating exchanges continued to soar.
        - Continued high investment in the military and heavy industry sustained limited gains in consumer goods;
            - Investment means resources were directed to industrial and military growth, and thus taken away from consumer production. Investment in industry may promise consumer production in the future, but for the present, it causes standards of living to erode or stagnate.
        - Agricultural problems became acute;
        - Distributions from farms to cities were sporadic; and
        - Oil revenues declined dramatically.
    - Under Gorbachev, Perestroika lowered the cost and raised the benefit of diverting resources from the official sector to the informal economy.
        - In the political-legal area, political control was used to deliver the privileges to the elite and rule of law was absent.
            - The prosecuting attorney was also the judge.
        - In the moral-cultural sphere, there was a loss of moral principals that worked in the economic system.
            - Citizens believed that theft from the state was necessary and justified.
    - These economic problems were aggravated by the Soviet people beginning to reject the secrecy of their history and to question the communist plan and the dream that accompanied it.
    - With two legs of the 3-legged table seriously weakened, all the strength and force of the 3rd leg could not save the whole, and the structure collapsed.

Conclusion: The cost of decades of choices to invest in industry and the military, to restrict individual freedoms, and to remain isolated from western cultures and economies finally became more than the Communist Party and the people of the Soviet Union were willing to pay.

Activity Lesson #1

A Journey of Choices

Lesson Overview: In the first part of this 2-tiered activity, students learn to identify alternatives and opportunity costs by looking at the journey of choices they make as they go through a typical school day. The second part of the activity asks them to apply their developing understanding to the historical journey of choices made by the leadership of the Soviet Union. While considering significant historical events, students identify the perceived alternatives at the time, the perceived benefits of each alternative, and the opportunity costs of the decision that was ultimately made. Students also learn to distinguish opportunity costs from consequences. In the process, they begin to recognize that all decisions involve costs, and that economic reasoning is therefore applicable in all situations, even those which may, at first glance, seem not to be "economic" decisions.

Economic Concept: Opportunity cost

Economics Content Standards:

Standard 1: ***Students will understand that:*** **Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.**

Benchmarks: *Students will know that:*

- Whenever a choice is made, something is given up.
- The opportunity cost of a choice is the value of the best alternative given up.
- Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.
- The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.
- Choices made by individuals, firms, or government officials often have long-run unintended consequences that can partially or entirely offset the initial effects of their decisions.

Materials:

Student handouts

Time required: 2 class periods

Assessment:

Space Race

As the Cold War developed and escalated into the 1960s, leaders of the Soviet

Union continued to face the choice of how to use resources to promote their goals. The initial choice to invest heavily in capital goods and military strength was coupled with a desire to wage a propaganda war - to show the rest of the world the prowess of the communist system. The Soviets wanted a showcase, both for their own citizens - to show them that the system was producing advancement and glory, and for the rest of the world. In the late 1950s and early 1960s, the Soviet Union faced the choice of making a huge investment in space technology, space exploration and science, diverting even more investment from the production of housing and consumer goods. This choice to pursue applied science in the area of space technology was apparently motivated by both the hope of using space superiority for military purposes and the desire to showcase the scientific genius of the Soviet Union by defeating the West in the space race. While military prowess could produce the same result, superiority would only be apparent in war, something the USSR wanted to avoid. Space exploration offered them the opportunity to be an undisputed international "winner," without the debilitating costs of war.

1. Consider the alternatives:

- invest in space technology or
- increase investment in housing and consumer goods

2. What were the benefits of each choice?

3. What was the opportunity cost of the choice made to pursue space exploration?

Results of the Choice to Explore Space:

The Sputniks, the shot at the moon, the photographing of the far side of the moon, and Soviet astronauts orbiting of the earth, together with atomic and hydrogen explosions, emphasized the achievements of Soviet applied science, and in particular Soviet rockets, missiles, and atomic and space technology. In these fields, as in others, the Soviet Union profited from contributions of espionage and of German scientists brought to the USSR after World War II. The state financed and promoted these extremely expensive technological programs and also organized and paid for the search for new natural resources necessary for the scientific endeavors.

In terms of the military / industrial investment we know that the Soviet Union tested an atomic bomb in 1949, signed a military alliance with China in 1950, and assisted the Chinese in the 1953-54 Korean conflict. In 1955, they established the Warsaw Pact; in 1956 successfully suppressed a revolt in Hungary; in 1957 successfully tested an Intercontinental Ballistic Missile, and in 1961 challenged the western powers by building the Berlin Wall. In addition, during the 1960s, the Soviet Union was the world leader in steel production.

During the same period, they compiled an impressive list of firsts in space, including the first satellite, the first satellite with an animal aboard, the first moon rocket, the first photo of the far side of the moon, the first man in space, the first woman in space, the first man to walk in space, the first flight around the moon and return, the first experimental space station. Soviet "firsts" in space would continue into the 70s.

4. Evaluate the Soviets' choice in terms of costs and benefits: was it the best choice at the time?

- Did the choice to divert investment into space technology seem to have serious military and/or industrial consequences?

5. Did they accurately assess the costs and benefits?

6. Who benefited and who bore the costs?

Procedures:

Part 1

1. Introduce the concept of opportunity cost to students by developing the following example in a large-group, interactive lecture-discussion.
    - When your alarm went off, or your mother called you, what choice did you face this morning?
        - *Accept a variety of answers and list them on the board. Then, ask students to reduce the choice to the two best alternatives. Essentially, these are: to get up or not get up . (Note that not getting up doesn't mean "never";" it means not getting up right then.)*
    - Why did you have to make this choice?
        - *You are limited in the ways that you can use your time. You can't get up and stay in bed at the same time.*
    - Let's list your two best alternatives on the board, and discuss the benefits of each.

Get Up Now	***Get Up Later***
don't have to hurry	*sleep longer*
time to stop for coffee and bagel on way to school	*stay warm*
time to look over notes before test	

    - Suppose you decide to get up now. What benefits do you give up?
        - *the benefits of getting up later - more sleep and staying warm*
    - Suppose you decide to sleep longer. What benefits do you give up?
        - *the benefits of getting up now - not having to hurry, review time, coffee and a bagel*
        - Opportunity cost is what you give up (the benefits of the next best alternative) when you make a choice.
    - Another way to look at it is that the benefit of making a choice becomes the opportunity cost of not making the choice.
    - *Note: Students will try to bring consequences into the discussion.*

For example, it may be true that because you decide to sleep in, you drive faster to get to school and get in an accident. While accepting the increased risk of an accident is a part of the decision process and therefore an opportunity cost, an actual accident is a consequence rather than an opportunity cost. In identifying opportunity costs, encourage students to focus on the choice itself and the benefits of the alternative, not on things that might come into play later.

2. Direct students to work with a partner. Post the following list of choices on the board or overhead:
    - eat breakfast
    - ride the bus
    - walk your homecoming date to class and arrive tardy to your own
    - go out to lunch
    - cut your last class
    - go in after school for help in physics
    - Directions to student pairs: Choose 3 entries from the list. For each entry:
        - identify the next-best choice
        - list the benefits of <u>each</u> of your two alternatives
            - for example, what are the benefits of eating breakfast? what are the benefits of <u>skipping</u> breakfast?
        - compare notes with your partner on which choice <u>you</u> would make
        - discuss how you and your partner <u>valued</u> the costs and benefits differently
            - did you and your partner make the same choice? why? why not?
            - did you and your partner make the same choice in a situation, but for different reasons?

3. Allow students to share their responses with the large group. Ask them to generate some generalizations about cost. Post these on the board. Emphasize:
    - ***Choosing is Refusing*** - what are the benefits you are refusing by making the choice? The benefits you refuse are the opportunity cost of your choice.
    - People's values differ. Individuals will place different value on the relative benefits of a set of alternatives and will thus make different choices.
        - *(Note: Benchmarks for Economics Content Standard 1 include: The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.)*
    - People can't escape opportunity costs - they are an inherent part of all decision- making.
    - Is it ever really true that you "don't have a choice"? Suggest an alternative saying that more accurately reflects reality.

4. What happens when we change the benefits and costs of a situation?

- Suppose the alarm rings on a Saturday morning when you hope to go skiing with friends.
- Are the alternatives the same ? *(yes - get up, or sleep more)*
- Are the costs and benefits the same? *(no - start with benefits, so that students get into the habit of seeing that opportunity cost is the benefits foregone)*

5. Go back to your list with your partner. Choose one of the items from the list.
   - What circumstance(s) might change the benefits and/or costs of that situation?
   - How would they change?
   - Would your choice change? Why or why not?

6. Share team examples with large group. Debrief.

7. *(optional)* Extension for economics classes or students interested in pursuing investigation of the value of the concept of opportunity cost as a tool for analysis of human behavior.
   - Briefly list the journey of choices you made today and identify the opportunity costs you've chosen to bear.
   - For each decision you made, rate the opportunity cost as high or low.
   - Rate your day so far - good day or bad day?
   - What's the relationship between good day / bad day and high vs. low opportunity cost? (Do good days have high or low opportunity costs?)
   - *(Careful thought reveals that, although it is counter-intuitive, good days have high opportunity costs. The thinking is this. If you were willing to bear high costs, the benefits you received were even higher, in your estimation, or you would have made a different choice.)*
   - Is there an exception to this relationship rule?
   - *(Yes, the rule breaks down when your initial assessment of the costs and benefits - your assessment at the time of decision - is faulty, either because you make a mistake or because you have insufficient information.)*
   - *Note: Some students may find this type of analysis useful in considering the historical choices of the Soviet Union, especially in helping them to see that faulty information or the mental filter of dedication to revolutionary zeal may cause people to perceive costs and benefits inaccurately.*

Part 2

8. Part 2 asks students to discover the characteristics of cost by examining key decisions in the history of the Soviet Union. This segment of the activity can be pursued as a research project, requiring more time and student involvement in collecting information, or it can be conducted as a small group discussion of more limited scope, in which you provide summaries of historical situations.

Note: If students use the teacher-provided summaries, they can probably discuss 2 or 3 of the historical decisions. If students are doing the research themselves, it may make sense to assign one topic to each group.

9. Using either the summaries provided in the student materials that accompany this lesson or the information collected through previously assigned student research, small groups are to answer the following questions with regard to the decisions made by leadership of the Soviet Union:
    - What were the considered alternatives at the time of choice?
    - What were the perceived benefits of each considered alternative at the time of choice?
    - What action was taken; what choice was made?
    - What was the opportunity cost of that choice? (Remember that the opportunity cost of one alternative is the perceived benefits of the other alternative - the benefits that are given up. The benefit of doing something becomes the cost of not doing it.)

10. Assign teams, or let them choose, one issue to present to the class. Student presentations should identify opportunity cost, as per the discussion questions. In addition, however, the presentation team should answer the following questions for their presentation:
    - All costs lie in the future. With the benefit of hindsight (your knowledge of history), do you think the Soviet leaders made the best choice?
    - Did the leaders accurately perceive the benefits and costs?
    - Were the benefits worth the costs?
    - Who reaped the benefits of the choice that was made?
    - Who bore the costs?

11. Debrief: Emphasize the 3 characteristics of opportunity cost:
    - All costs are to someone; people bear costs.
    - All costs are the result of actions. (Objects have no cost.)
    - All costs lie in the future.

Overhead Transparency or Student Handout (In-class exercise)

Directions:

1. Read the summary of the following events or decisions in Soviet history:
    - The Five Year Plans
    - The Nazi Non-Aggression Pact
    - Consciously emphasizing university education and increasing numbers of educated citizens

2. For each event or decision, answer the following questions:
    - What were the considered alternatives at the time of choice?

- What were the perceived benefits of each considered alternative at the time of choice?
- What action was taken; what choice was made?
- What was the opportunity cost of that choice? (Remember that the opportunity cost of one alternative is the perceived benefits of the other alternative - the benefits that are given up. The benefit of doing something becomes the cost of not doing it.)

3. Choose one of the 3 issues you studied and prepare a 5 minute presentation for the class. Your presentation should identify alternatives and costs and should make a case for your opinion on the following questions:
   - All costs lie in the future. With the benefit of hindsight (your knowledge of history), do you think the Soviet leaders made the best choice?
   - Did the leaders accurately perceive the benefits and costs?
   - Were the benefits worth the costs?
   - Who reaped the benefits of the choice that was made?
   - Who bore the costs?

Overhead Transparency or Student Handout (research exercise)

Directions:

1. Read the summary of the following events or decisions in Soviet history:
   - The Five Year Plans
   - The Nazi Non-Aggression Pact
   - Consciously emphasizing university education and increasing numbers of educated citizens

2. For each event or decision, answer the following questions:
   - What were the considered alternatives at the time of choice?
   - What were the perceived benefits of each considered alternative at the time of choice?
   - What action was taken; what choice was made?
   - What was the opportunity cost of that choice? (Remember that the opportunity cost of one alternative is the perceived benefits of the other alternative - the benefits that are given up. The benefit of doing something becomes the cost of not doing it.)

3. Research one of the following events or decisions in Soviet history:
   - Berlin Blockade
   - Cuban Missile Crisis
   - Space Race
   - Exile A. Solzhenitzyn to Siberian gulags and then to US
   - Gorbachev - perestroika political reforms

4. Prepare a 5 minute presentation of your research for the class. Your presentation should identify alternatives and costs and should make a case for your opinion on the following questions:

- All costs lie in the future. With the benefit of hindsight (your knowledge of history), do you think the Soviet leaders made the best choice?
- Did the leaders accurately perceive the benefits and costs?
- Were the benefits worth the costs?
- Who reaped the benefits of the choice that was made?
- Who bore the costs?

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student handout

The Five Year Plans

In the aftermath of the Russian Revolution and World War I, the weakened condition of the Soviet economy was clearly visible. Output in every economic sector had declined: agricultural output was well below pre-war levels; the availability of consumer goods had fallen dramatically; and industrial output faced a long, slow path to recovery.

During the early to mid-1920s, Soviet leaders engaged in a great deal of internal debate about the relative importance of peasant owned and controlled agriculture on the one hand and state-run industry on the other. The essential question concerned the best path to economic growth: Was economic growth - national wealth and prosperity - best achieved through growth of private farms and the agricultural sector or was it best achieved through state-directed investment in industry? Soviet leaders clearly felt that they could not pursue both and that a choice would have to be made.

The Five Year Plan called for investing in industry by limiting the resources available for the production of consumer goods and the farm sector and directing those resources to the production of such industrial essentials as steel and electricity. For this to be accomplished, the profits from agricultural would have to be used for investment in industry, and satisfying citizens' desires for consumer goods and housing would have to be delayed. The alternative was to encourage the use of resources to satisfy the immediate desires of citizens for food and other agricultural and consumer goods. This would mean delaying investment in the capital necessary for heavy industry and future industrial strength.

Consider the Soviet leaders' choice:

Alternatives:	Five Year Plan: emphasize investment	No Five Year Plan: emphasize consumption
Benefits to the USSR		
Action taken (Choice made) - check one box		
Opportunity Cost		

Given the alternatives and the benefits of each, as they were considered at the time, do you think the leaders made the right choice? Why?

Results of the choice to adopt the First Five Year Plan

By implementing the first of many Five Year Plans, the Soviet leaders clearly chose to push for high economic growth rates through investment in heavy industry and military production. One immediate result of implementing the plan was the seizing of agricultural harvests for redistribution by the state. Farming was collectivized in state-run cooperatives, and there was little or no emphasis on producing consumer goods. In addition, prices and wages were set by the government, which left few consumers with money for consumer purchases, in any case.

Investment in industry rose to 25% by the late 1920s, meaning that effectively one-fourth of the resources of the Soviet Union were being diverted into building an industrial foundation. During the First Five Year Plan (1928-1933) the Soviet economy grew by 48%. Industrial goods grew by 113% and electric power production by 227%. On the other hand, consumer goods grew by only 1%.

With the knowledge of hindsight, discuss the following questions. Be prepared to defend your answers.

- All costs lie in the future. With the benefit of hindsight (your knowledge of history), do you think the Soviet leaders made the best choice?

- Did the leaders accurately perceive the benefits and costs?

- Were the benefits worth the costs? (What was the consequence of the choice that was made?)

- Who reaped the benefits of the choice that was made?

- Who bore the costs?

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student handout

Nazi Non-Aggression Pact

In the years immediately preceding World War II, Joseph Stalin worked hard to keep the Soviet Union isolated from, although not necessarily neutral in, the growing tensions in Europe. He was very much aware that Hitler's Germany posed a threat to the Soviet Union. He was very much concerned that Hitler's powerful army might invade and take the agriculturally rich Ukraine. He also knew that his own army was no match for Hitler's and that, at the very least, he needed time to prepare to defend the Soviet Union from the Nazis. With these concerns very much in mind, in early 1939 Stalin entered into two sets of negotiations: with the French and British on one hand and with Nazi Germany on the other.

Looking at Soviet history in the years before the war, it is apparent that Stalin was a pragmatist, looking for the circumstances that would be most favorable to the USSR. First, the Soviet Union joined the League of Nations - a move that Stalin had previously opposed - presumably to become more friendly with the Western nations. (However, the known atrocities of Stalinist regime and the perceived weakness of the Soviet military kept the Soviet Union from reaching any agreements with western nations working through the League.) As events heated up in Europe, Stalin had to ask himself whether an alliance with Great Britain and France, and their combined military strength, would deter Hitler, or whether it would only mean that the Soviet forces would be exposed to the fury of German attack from the very beginning of an armed conflict.

Stalin's greatest fear was to be dragged into a war against Germany while other countries like France and Great Britain sat on the sidelines and watched, and an alliance with Germany offered other possibilities. The Nazis proposed the division of Poland between Germany and the USSR in return for not having to worry about attack from the east as they dealt with their foes in the west. From Stalin's point of view, Soviet-Polish relations had never been particularly good, and the Soviet Union had no reason to come to Poland's assistance. Perhaps most importantly, such an agreement would provide an opportunity to stay out of the war. Additionally, the Germans seemed likely to agree to recognize the Baltic area as belonging to the Soviet Union's "sphere of influence," advancing Stalin's perennial goal of extending the Soviet empire.

Consider Stalin's choice:

Alternatives Considered by Stalin	Sign the Non-Aggression Pact	Sign an Agreement with the Allies
Benefits to the USSR		
Action taken (Choice made) - check one box		
Opportunity Cost		

Given the alternatives and the benefits of each, as they were considered at the time, do you think Stalin made the right choice? Why?

Results of Stalin's Choice

The signing of the Non-Aggression Pact between the Soviets and the Germans was announced on August 23, 1939, and came as a shock and surprise to the rest of the world. On September 1, German troops invaded Poland, and shortly thereafter, Soviet troops crossed Polan's eastern boundary to claim their share of the spoils. Later the Non-Aggression pact was extended, allowing Stalin to include Lithuania, Estonia, and Latvia within the Soviet "sphere of influence."

With the knowledge of hindsight, discuss the following questions. Be prepared to defend your answers.

- All costs lie in the future. With the benefit of hindsight (your knowledge of history), do you think the Soviet leaders made the best choice?

- Did the leaders accurately perceive the benefits and costs?

- Were the benefits worth the costs? (What was the consequence of the choice that was made?)

- Who reaped the benefits of the choice that was made?

- Who bore the costs?

student handout

Emphasis On Education*

*Statistics in this scenario were taken from Hedrick Smith, ***The New Russians,*** p. 20.

While the rate of change seemed slow in many areas of Soviet society and economy in the years that followed World War II, this was not the case with the area of education, which was targeted early as a priority for investment. At the time of the 1917 Revolution, Russia was primarily an illiterate peasant society with a primitive work force comprised largely of unskilled manual laborers. It is estimated that the illiteracy rate was 75% and that school enrollment was only about ten million in the early 1920's. In part because of a desire to teach about the writings of Lenin and the achievements of communism, but also to help move the country from an agrarian backward economy to a world power, schools and education were areas where the Soviets invested heavily right from the beginning. In addition, school attendance was given high importance in Soviet society.

Consider the Soviet leaders' choice:

Alternatives Considered by Stalin	**Invest in education**	**Invest more in military and heavy industry**
Benefits to the USSR		
Action taken (Choice made) - check one box		
Opportunity Cost		

Given the alternatives and the benefits of each, as they were considered at the time, do you think the Soviet leaders made the right choice? Why?

Results of the Choice:

By 1980 the literacy rate was one of the highest in the world. The increase in

the numbers of people enrolled in higher education institutions was also striking. In 1950 there were 1.2 million university-level students in the Soviet Union; by the mid-1980s, that number had increased to over 5.4 million students being taught by half a million professors and instructors. By 1985 the Soviet Union had one of the largest bodies of scientific researchers in the world: 1.5 million scientists doing research work.

This emphasis on education produced both a blessing and a curse for the Soviet Union. It was a blessing in that the level of literacy, the quality of the labor force and the knowledge of the leadership increased dramatically. It was a curse in the fact that it was much easier for Soviet citizens to learn and read about life in the West, (if they could obtain banned books and newspapers). The university educated, or intelligentsia as they were called in the Soviet Union, became well-read in history and western thought. For this group blindness to the lies of the past and unquestioning loyalty to the Marxist and Leninist ideals were no longer acceptable. After all, the Soviet universities had taught them to think.

Questioning by the intelligentsia was perceived by Soviet leaders as a threat; critics were branded disloyal. Stalin conducted purges that sent many of the intelligentsia to concentration camps in Siberia, or in some cases even to death sentences. While the education system continued to increase the level of literacy and the size of the intelligentsia, it was only in the last years of the Soviet Union that the questioning of the past and present policies of the communist leadership came out in the open. Many observers of the Soviet Union believe that this force of education and the millions of individuals who were literally trained to question the past helped to break the hold that the communist party had on the loyalties of Soviet citizens. Gorbachev, the architect of perestroika, was part of this growing educated middle class, the first university-educated Soviet leader since Lenin.

With the knowledge of hindsight, discuss the following questions. Be prepared to defend your answers.

- All costs lie in the future. With the benefit of hindsight (your knowledge of history), do you think the Soviet leaders made the best choice?

- Did the leaders accurately perceive the benefits and costs?

- Were the benefits worth the costs? (What was the consequence of the choice that was made?)

- Who reaped the benefits of the choice that was made?

- Who bore the costs?

teacher guide - Investment v. Consumption: The Five Year Plans

Alternatives:	Five Year Plan: **emphasize investment**	No Five Year Plan: **emphasize consumption**
Benefits to the USSR	• *greater future industrial growth* • *increased future military strength* • *increased ability to produce manufactured goods for consumers*	• *fewer resources diverted from agriculture* • *greater production of consumer goods (like food)*
Action taken (Choice made) - check one box	**XXXX**	
Opportunity Cost	Lose benefits of emphasizing consumption: • *fewer resources diverted from agriculture* • *greater production of consumer goods (like food)*	Lose benefits of emphasizing investment: • *greater future industrial growth* • *increased future military strength* • *increased ability to produce manufactured goods for consumers*

Given the alternatives and the benefits of each, <u>as they were considered at the time</u>, do you think the leaders made the right choice? Why?

Encourage students to include consideration of point-of-view and short-term v. long-term in their answers. People frequently make choices for investment over consumption. If a student saves for college instead of spending everything she earns immediately, she is choosing investment over consumption, and is expecting that her investment will increase her ability to consume in the future. Similar choices are made by people saving to buy a new car or a house. The crucial difference here is that individuals are making the choices and they bear the costs. In the Soviet Union, leadership made the choice and consumers bore the costs. (Certainly, citizens were <u>promised</u> a better future standard of living in return for current sacrifices, but for the most part those promises failed to materialize.)

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teacher guide - The Non-Aggression Pact:

Alternatives Considered by Stalin	Sign the Non-Aggression Pact	Sign an Agreement with the Allies
Benefits to the USSR	• *Hitler won't invade (at least not immediately) and the Ukraine is protected* • *avoid war — buy time to build both economy and military* • *expand Soviet empire (with Hitler's help)*	• *strength of the Allies (both military and economic)will support USSR if Hitler does attack*
Action taken (Choice made) - check one box	**XXXX**	
Opportunity Cost	Lose benefits of agreement with Allies: • *strength of the Allies (both military and economic)will support USSR if Hitler does attack*	Lose benefits of pact with Nazis: • *Hitler won't invade (at least not immediately) and the Ukraine is protected* • *avoid war — buy time to build both economy and military* • *expand Soviet empire (with Hitler's help)*

Given the alternatives and the benefits of each, <u>as they were considered at the time</u>, do you think the leaders made the right choice? Why?

Don't let students go too far into the future with the analysis. Yes, we <u>now</u> know that the Nazis invaded the USSR, but in 1939 it seemed reasonable to suppose that their greatest concern was with the West. It was also reasonable for Stalin to try to protect the Ukraine through treaty, or at least buy time to build up his army against a later invasion. Unless you can identify a direct cause-effect connection, don't let students bring future events into the equation.

Alternatives Considered by Stalin	Invest in education	Invest more in military and heavy industry
Benefits to the USSR	• *increase literacy rate* • *create a skilled labor force to provide workers for industrial and technological age* • *increase invention and innovation in the future — with both practical and propaganda value*	• *faster immediate growth of industrial and military strength* • *less dissent (both as a result of military presence and because dissent increases with education)*
Action taken (Choice made) - check one box	**XXXX**	
Opportunity Cost	Lose benefits of investing in military and heavy industry: • *faster immediate growth of industrial and military strength* • *less dissent (both as a result of military presence and because dissent increases with education)*	Lose benefits of investing in education: • *increase literacy rate* • *create a skilled labor force to provide workers for industrial and technological age* • *increase invention and innovation in the future — with both practical and propaganda value*

Space Race

- *This is essentially the same problem as the scenario problem on whether or not to emphasize education, in that it's a choice between two*

alternative investments.

- *Students may suppose that one choice would be to produce more consumer goods. While they might see that as a reasonable choice, they need to be reminded that the Soviet leadership did not. Throughout Soviet history, we see leaders promising future consumer gains in return for sacrifices made by citizens in the present - that is, investment in exchange for current consumption.*

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Lesson 2
Missing Markets and Missing Prices - The Task of the Planning Ministry

Key Economic Concept: Markets provide information in the form of prices

Related concepts:

Opportunity cost	Prices
Information costs	Investment
Demand and Supply	Markets
Competition	

Content Standards and Benchmarks (3, 7 and 8):

Standard 3: *Students will understand that:* Different methods can be used to allocate goods and services. People, acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.

Benchmarks: *Students will know that:*

- No method of distributing goods and services can satisfy all wants.
- There are different ways to distribute goods and services (by prices, command, majority rule, contests, force, first-come-first-served, sharing equally, lottery, personal characteristics, and others), and there are advantages and disadvantages to each.
- Scarcity requires the use of some distribution method, whether the method is selected explicitly or not.
- There are essential differences between a market economy, in which allocations result from individuals making decisions as buyers and sellers, and a command economy in which resources are allocated according to central authority.
- People in all economies must answer three basic questions: What goods and services will be produced? How will these goods and services be produced? Who will consume them?
- National economies vary in the extent to which they rely on government directives (central planning) and signals from private markets to allocate scarce goods, services, and productive resources.
- Comparing the benefits and costs of different allocation methods in order to choose the method that is most appropriate for some specific problem can result in more effective allocations and a more effective overall allocation system.

Standard 7: *Students will understand that:* **Markets exist when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services.**

Benchmarks: *Students will know that:*

- Market prices are determined through the buying and selling decisions made by buyers and sellers.
- Relative price refers to the price of one good or service compared to the prices of other goods and services. Relative prices are the basic measures of the relative scarcity of products when prices are set by market forces (supply and demand).

Standard 8: *Students will understand that:* **Investment in factories, machinery, new technology, and the health, education, and training of people can raise future standards of living.**

Benchmarks: *Students will know that:*

- Scarce goods and services are allocated in a market economy through the influence of prices on production and consumption decisions.
- Changes in supply or demand cause relative prices to change; in turn, buyers and sellers adjust their purchase and sales decisions.
- Government-enforced price ceilings set below the market clearing price and government - enforced price floors set above the market clearing price distort price signals and incentives to producers and consumers. The price ceilings cause persistent shortages, while the price floors cause persistent surpluses.

Lesson Theme: In the absence of markets, the planning ministry of the Soviet Union faced an impossible task in trying to gather, analyze, and disseminate the information necessary to answer the basic economic question of how to allocate resources for the purposes of production and consumption by an entire nation.

Student Activity: *Missing Markets*
Students will participate in a simulation in which their allocative task is hampered by their inability to access the information that markets provide. Then, the level of consumer satisfaction the allocators create will be measured against that generated by market.

Key Points:

1. The opening lesson alluded to the great imbalances of the Soviet economy and how these imbalances were the logical consequence of the choice made by the revolutionaries and their successors to create a centrally directed economy emphasizing priority sectors.
    - The next four lessons will look at the components of the Soviet economy with an eye to revealing the structural weaknesses that, despite massive investment, prevented the Soviets from reaching the levels of production and of productivity achieved

by western economies.

2. Review: All economies, whether planned or market-based, face choices about how to allocate resources.
    - There are simply not enough resources - natural, human, or capital - to allow all wants to be met.
    - This constraint results from scarcity rather than from the type of economic structure.
        - All economic systems must make choices about how to use limited resources.
    - Different economic systems use different methods to decide what combination of goods and services to produce and how to direct resources to their end uses.
    - Regardless of the type of system, the inescapable fact of scarcity results in many interests competing for the resources that are available.

3. Market economies make decentralized decisions about resource use; centrally directed (or command) economies like the Soviet Union, used centralized decision making.
    - In market based systems, coordination of production and distribution is left to individual initiative.
        - Suppliers of goods and services, motivated by profit, produce in response to demand by consumers.
        - Suppliers of capital, natural resources, and labor offer their services, in return for income, in response to demand by producers of goods and services.
    - The choice to buy or sell any resource, product, or service involves an opportunity cost - the value of the choice that is foregone. (Choosing is Refusing).
        - Prices offer buyers and sellers information regarding the value of the resources for various uses as well as the value of the goods and services made from those resources.
        - Prices let producers and sellers know when to expand or reduce supply; by comparing the cost of producing a unit to the potential revenue to be earned.
        - Prices impose constraints on buyers who must pay for whatever is consumed out of their limited budgets.
        - Market prices allocate resources (and goods) to their highest valued uses - uses with values above the opportunity costs.
            - Thus Michael Jordan plays professional basketball rather than playing baseball or being a singer. Ross Perot, on the other hand, develops and leads companies rather than playing professional basketball.

4. The Soviet Union had almost no legal markets, and prices and wages were set by the central planners. The economic problem then became: In the absence of the information that markets provide, how are the questions of production and distribution to be answered? This was the dilemma facing the central planning

ministry of the Soviet economy.

- Major economic goals for the Soviet Union were set by the Politburo and Gosplan.
  - The goals tended, of necessity, to be very broad in nature, but clearly reflected the priorities of the leaders.
- This centrally directed goal setting (through 5 Year Plans, etc.) had some advantages, particularly in the early years when the economy was fairly simple:
  - The system had the ability to mobilize high investment levels, which lead to rapid industrial growth.
  - The goal-setting process served the priorities of government leaders, who saw in rapid industrial growth the steady enhancement of military capability.
  - The control mechanism for allocating resources was relatively simple.
  - The system could eliminate any wasteful competition and could exploit economies of scale (the efficiencies that may result from large-scale, over small scale, production).

5. In the Soviet Union, central planning attempted to take the place of markets.
   - In market economies, the buying and selling interactions of producers and consumers set prices, identify priorities in both consumer and resource markets, and generate information vital to accurate forecasting of future demand and resource availability.
   - In planned economies, some one or some central agency must
     - project desired output in both the consumer and producer sectors;
     - identify available resources; and
     - make decisions about the allocation of those resources based on output goals in the many separate sectors of the economy.
   - The implementation of economic plans in the USSR was the responsibility of Gosplan, the central planning agency.
     - In its annual plan, Gosplan calculated theoretical inter-industry balances and tried to model the resource requirements for every product group.
   - The administrative requirements of such a plan resulted in the creation of more than 50 vertically integrated industrial ministries that were:
     - responsible for assigning production plans and allocating resources to enterprises scattered across 9 times zones in Europe and Asia; and
     - by the 1980s, responsible for coordinating and directing the production of 24 million different products.
   - The ministries faced the daunting task of trying to gather information and the frustration of having little ability to alter the Gosplan's distribution of resources .
     - Although prices were fixed by Gosplan, a retailer could get some signal that stylish women's shoes were in deficit or that four fingered gloves were in surplus and could pass this information to the ministry level in Moscow.

        - However, the ministry had little hope of increasing the supply of women's shoes because it could not significantly affect the allocation of resources.
            - Decisions about overall resource allocation were made by the Politburo.

6. In the economy of the Soviet Union, production responded to administrative instructions, not to market signals, with predictable consequences:
    - There was no reliable or efficient way to measure consumer demand for goods and services, or consumer satisfaction with the goods and services they were able to acquire.
        - Everything produced was distributed and (sooner or later) sold, so there was no measure to project quality, style, or changing consumer tastes.
        - Highly desired goods generated long lines of waiting customers, but not higher prices; therefore, valuable resources were not systematically allocated to their highest valued uses because values of goods and of resources were not reflected in prices.
        - Styles and production levels might be set at the ministry level for women's boots. In the event that women didn't like the boots and didn't buy them, the factory still produced to its target, and the boots were shipped to warehouses and stored for years.
    - The ministry engaged in a great deal of negotiation to acquire resources.
        - The control that officials had over resources led to the common practice of taking favors, or even bribes, in return for resources.
            - While officials did not own the resources, they certainly controlled them.
            - In anticipation of shortages, production managers often hoarded spare parts, tools, and other resources badly needed elsewhere.
    - The system also encouraged ministers to conceal information on resource needs and production capabilities.
    - The lack of good information and a feedback mechanism meant that resources were often assigned to less than their highest valued uses.
    - Because the production targets were usually set as aggregates to be implemented by local officials and plant managers, the targets often resulted in incentives for illogical production.
        - Size rather than number became the motivator when production goals were given in weight or tonnage of production, rather than in units.
        - Examples include:
            - lamps with heavy lead bases to increase tonnage; and
            - huge nails and extremely thick panes of glass when nail and glass production were measured by weight.
        - Targets set in number of units rather than weight resulted in very small products:
            - thin nails,

        - fragile glass,
        - an overabundance of baby-sized clothes.

7. In addition to missing markets for goods and services, the Soviet Union coped with missing markets in resources like financial and physical capital and land.
    - The lack of capital markets meant that all major investment decisions were made by planners.
        - Planners, who didn't face the costs of their decisions, frequently tied up resources in large scale grandiose projects.
        - This left out the possibility of small scale individually financed projects - such as are a major component of successful western economies.
    - Land uses and housing were determined by planners as well.
        - This led to inflexible conditions of use that hobbled the Soviet economy:
            - housing concentrated at the edges of cities;
            - factories built in the countryside despite high transportation costs; and
            - shoddy high rise apartment buildings that workers considered undesirable.

Conclusion: As the Soviet economy became more complex, costs of information about resource values and people's desires rose astronomically. The planning problems became increasingly daunting and eventually insurmountable. No matter their size or complexity, the ministries could not hope to replace the information gathering and dissemination functions so efficiently carried out by market prices. The lack of market information on the values of goods, services, and resources in the Soviet Union, and the increasing ability of western market based economies to use and move information rapidly widened the gap in standards of living.

Activity Lesson #2

Missing Markets - The Task of the Planning Ministry

Lesson Overview: In this simulation, student "ministers" find that their ability to distribute goods and services to satisfy consumer wants and needs is severely hampered by their inability to access the information that markets provide. Students compare the level of consumer satisfaction that results from a centrally planned allocation of 2 goods to the allocation of the same goods by markets.

Economic Concept: Markets provide important information about price and consumer demand that is not available to planners who must make allocation decisions in centrally directed (command) economies.

Economics Content Standards:

Standard 3: *Students will understand that:* Different methods can be used to allocate goods and services. People, acting individually or collectively

through government, must choose which methods to use to allocate different kinds of goods and services.

Benchmarks: *Students will know that:*

- There are different ways to distribute goods and services (by prices, command, majority rule, contests, force, first-come-first-served, sharing equally, lottery, personal characteristics, and others), and there are advantages and disadvantages to each.
- There are essential differences between a market economy, in which allocations result from individuals making decisions as buyers and sellers, and a command economy in which resources are allocated according to central authority.
- National economies vary in the extent to which they rely on government directives (central planning) and signals from private markets to allocate scarce goods, services, and productive resources.
- Comparing the benefits and costs of different allocation methods in order to choose the method that is most appropriate for some specific problem can result in more effective allocations and a more effective overall allocation system.

Standard 8: ***Students will understand that:*** **Prices send signals and provide incentives to buyers and sellers. When supply or demand changes, market prices adjust, affecting incentives.**

Benchmarks: *Students will know that:*

- Scarce goods and services are allocated in a market economy through the influence of prices on production and consumption decisions.

Materials:

- Record chart for blackboard or overhead transparency
- 50-75 #2 pencils, unsharpened
- 100 assorted Halloween size candy bars
- "production chips" (colored paper clips, poker chips, etc.)
- prizes for successful store managers (large candy bar, fast food certificate, etc.)

Time required: 1-2 class periods

Assessment:

The following story appears in ***Meltdown*** (by Paul Craig Roberts and Karen LaFollette, Washington D.C.: The Cato Institute, 1990, p. 19-20):

"Although demand for boots had been falling, shoe factories concentrated on premium-maximizing [heavy woolen] boots. During the first year, the Russian Shoe Trade Association (Rosobuvtorg) imposed 10,000 extra pairs on retailers, filling warehouses and stores. The next year the same thing happened, except this time the trade association manager insisted that sellers take 38,300 more pairs of boots, on top of the 13,000 pairs that now languished in storage. So shoe sellers ended up with the boots, knowing full well that they could never sell them. At last count, retailers were buried

under 200,000 pairs of boots that filled every imaginable space."

Suppose that, instead of the Russian Trade Association, Nike had made the first 10,000 pairs of women's woolen boots. Rewrite the above description to include the changes in:

- the flow of information,
- the resulting allocation and pricing decisions that Nike would have made, and
- the impact of those decisions on the consumers.

Procedures

Part 1

1. Appoint 2 planning ministers and tell them that they must decide how to use available resources to produce 2 consumer goods - pencils and candy. Show the ministers and the class the pencils and candy and then offer the ministers the following information:
    - You have enough resources to produce 25 pencils or 50 pieces of candy or any of the proportionate combinations: 24p and 2c, 23p and 4c etc. *(Depending on the class, you may want to list the combinations on the board.)*
        - ***Note well:*** *These numbers are based on a class of about 25-28 students. Reduce the numbers for smaller classes. Numbers must be small enough that not all student wants are easily satisfied.*
    - You are to instruct the production managers at the pencil and candy factories how much to produce and sell and at what price to sell each item.
    - **Your goals are to:**
        - **use all available resources (no idle resources), and**
        - **keep consumers as happy as possible**
    - Your classmates will be the consumers in this economy, and each will have 20 rubles to spend.
    - Because we are interested in how you made your decision as well as what you decided, I am going to send an observer along to listen to you make your decisions. The observer may NOT participate in your discussion in any way.
    - The observer is only there for purposes of debriefing the exercise and I will pay candy for his/her time and effort.

2. Appoint an observer who can be counted on to pay attention while staying in the background. Instruct the observer to take notes so that he/she can tell us later how the ministers made their decision, what problems they faced, etc.

3. Send the ministers and the observer out in the hall. Tell them they will have only 2-3 minutes to make their decisions.

4. While the ministers are deliberating, choose 2 factory managers. Set them up at the front of the room in front of black

board signs for "Candy" and "Pencils."

5. Distribute 20 ruble cards to the rest of the class. Tell them that the cards work like debit cards and the amount they spend will be marked off at the store.
    - They are free to buy pencils and/or candy or to not spend their money at all. If they have the money, they may purchase as many items as they wish.
    - Explain to the class that as high school students, they will soon be taking a test to determine whether or not they will be admitted to the elite State University.
        - Remind them that admission to the university is literally the difference between a life of some comfort and a life of poverty.
        - Also tell them that to get into the examination room, each student must have at least one new, unsharpened, number 2 pencil. They may want to keep this in mind as they make their purchases.

6. Call the ministers back into the room. When they tell you the production amounts, distribute candy and pencils to the factory managers, but **do not let them announce the production amounts.**
    - **Post the prices of candy and pencils on the blackboard** and distribute the correct number of pencils and candy to the factory managers.
    - Tell the planning ministers that they may stand in the doorway if they would like to, but they may not interact with the consumers.
        - *(If your classroom door has a window, close the door and let the ministers observe - if they want to - through the glass.)*

7. Conduct a 2-3 minute selling round in which students can come to the pencil or candy managers and purchase goods at the posted price.
   (Call time to end the trading session before consumers buy a good other than their first choice just because the factory is out of their first choice and they can't buy it.)
    - Call time and halt the transactions whether or not all the pencils and candy have been sold.
    - Record the numbers of pencils and candy sold.
    - Record the number of citizens who are dissatisfied because they couldn't buy what they wanted to.
    - **Collect any remaining pencils and candy** from the 2 factory managers.

8. Instruct the ministers that in planning for the second round, they may change the allocation of pencils and candy if they wish, but that their superiors have decided to hold prices constant to promote stability in the economy.

- Send the ministers and the observer into the hall to make their decisions.

9. Distribute another 20 rubles to the class.
   - Announce that congratulations are in order. Everyone passed the university exams!
   - The polite thing to do would be to have a party for all your friends and relatives to thank them for their support. You'll need lots of candy for your guests, of course.

10. Recall the ministers of planning and have them deliver their allocation information.
    - Provide the required number of pencils and candy to the factory managers. **(Do not** announce the numbers.)
    - Remind students of the prices of pencils and candy.

11. Conduct the second selling round as you did the first.
    - Call time and record the sales.
    - Count and record the number of unhappy consumers.
    - Collect any remaining "goods."

12. End this portion of the simulation. *(To keep down the cost of running the simulation, you may want to collect all the pencils to use with another class.)*

Debrief:

- How did the ministers of planning make their decisions about the allocation of resources and the prices of the products?
  - Ask the ministers and the observer to report.
- Did their allocation decision change over the rounds of the activity?
  - Why or why not?
- Ask the class how satisfied they were as consumers.
  - Did they get all of the pencils and candy that they wanted to buy?
- Did the desire, or demand, for pencils and candy change during the rounds?
  - Is this realistic?
  - Do the desires of consumers change from week to week in real life?
  - Were the planning ministers able to get information about these changes?
- What were some problems created by having central planners do the allocating and pricing of goods?
- Do you think that having ministers of planning decide on allocation and prices of pencils and candy was a good way to make decisions?
  - Why or why not?

Note: In some instances, students may have resorted to secondary sales or even bribery to get pencils and candy. This is OK and should be discussed in the debriefing as a possible consequence of the frustrations created by the misallocation of pencils and candy by the

ministers.

13. At this point, there are two options. The shorter option is to complete the exercise by conducting a large group discussion in which students draw on their own experiences in markets. The teacher's goal is to focus student thinking on a comparison between allocation by planners and allocation by "unplanned" markets. Emphasize to students
    - the responsiveness of markets, and
    - the role of prices in providing the information makes that responsiveness possible.

    If your class has little opportunity to examine markets, you may want to run the (optional) second part of the activity, in which the students actually create a market for pencils and candy.

    Discussion Questions (or homework worksheet to be discussed the next day):
    - Suppose that the sellers of pencils and candy had been in the United States. What would have been different?
    - What would determine the number of pencils and pieces of candy in each store?
        - How would the store manager know that people's desires for products had changed?
        - What might he or she do?
        - Suppose he raises the price and people still buy pencils; what information does the manager have about people's desire for pencils?
        - Would the store manager need to know <u>why</u> people's desires had changed?
    - Suppose the store manager made a mistake and had too many pencils (like the ministers did). What would happen?
    - Is the store manager better able or worse able than the planner to gather information that lets him provide the things customers want? Why? How does he get that information?

Part 2 (Optional)

14. Explain to students that in the second part of the simulation they try another way to allocate pencils and candy, and then compare the results with the planning ministry method.
    - Tell the former planning ministers that they have inherited a store in the U.S. that sells pencils and candy.
        - *(Note: Use the same 2 students because they do not have the information about why the consumer demand for pencils and candy changed. It is important in the debriefing to be able to show that they could make effective market decisions even without this knowledge.)*
    - The store is large and employs 4 checkout clerks. (Appoint students to take these roles.) The former owner of the store had set the price of candy at 5$ and the price of pencils at 15$.
    - Tell the owners that you will give them 5 pencils, 10 pieces of candy, and 15 production chips that can be turned into the warehouse (you) for more products. *(Reduce these numbers*

for classes smaller than 25 students.)

One production chip = 1 pencil or 2 pieces of candy.

- Tell the store owners that you will decide how successful they are by observing 2 criteria:
  - whether consumers are upset because they have to wait in long and/or slow lines, and
  - whether they have shortages or surpluses of candy and pencils.
- If their store is well run, they will be rewarded at the end of the simulation.

15. While the owners are setting up their checkout clerks in the front of the room, distribute 20-dollar cards to the rest of the students.

16. When the store is ready and all the consumers have their dollars, explain that when the store is open, the owners can come to you at any time during the round and exchange their production chips for more products.
    - Also, it is very important to let the owners know that they can change the prices of their products at any time during the round.
      - Explain that because the selling round might be chaotic, the owners may call a "time out" to make production and pricing adjustments.

17. Run 2 or 3 rounds.
    - Give consumers a $20 card at the beginning of each round, and give the store owners 25 production chips at the beginning of each round.
    - Ask consumers to keep track of the prices of their purchases on the back of their dollar cards.
    - At the end of each round, record quantities purchased (and prices) by tabulating a show of hands from the consumers.

18. At the beginning of one round, ask the consumers to pretend that it's the "university situation" from the last simulation again.
    - *(Don't tell the store owners what this means and don't let other students tell them. We want to see if they adjust, even though they <u>don't know why</u> consumers' demand changed.)*

19. At the beginning of another round, ask the consumers to pretend it's the "congratulations situation" from the last simulation.
    - *(Again, don't tell the store owners what this means.)*

20. End the simulation.
    - (Don't forget to pay the clerks and observer with candy.)

Debrief:

- How did the owners of the store make their decisions about the numbers of pieces of candy and pencils (allocation of resources)?
    - How did they know what to turn in their production chips for?
- How did the owners of the store decide what price to charge for pencils and for candy?
- Did the allocation and/or pricing decisions change over the rounds, or even during the rounds? Give examples of how it changed.
    - Store owners - Why did you make that change?
- Was there information that the store owners could use in their decisions that was not available in the planned rounds?
    - What was this information and where did it come from?
    - Why was this information available to the store owners and not to the planners?
    - Would it have helped the planners to know about the university entrance exams and the celebration parties?
        - *(yes, although they still might not have been able to adjust very quickly and/or very accurately)*
- Did the store owners need the information about the university entrance exams or the celebration parties to make effective decisions? Why?
  (no - all they had to know was that there were long lines for one or the other product. It was of no importance to them <u>why</u> the lines occurred.)
    - Refer to the blackboard and the records of sales and prices from the 2 parts of the simulation. What do they reveal about the importance of the feedback loop of information in enabling producers to adjust to consumers' demands?
        - Were you, as consumers, more or less satisfied in the store phase or in the central planning phase of the simulation? Why?

      Did the store owners run the store successfully - that is, did they keep lines to a minimum and have the right mix of goods on hand? (Have class decide whether store owners deserve their rewards.)
    - Store owners / central planners - were you more or less satisfied in the store phase or in the central planning phase? Why?
    - Which method is better for making allocation and pricing decisions? Defend your choice in terms of benefits and costs of 2 alternatives.
        - Hint: Think back to the activity we did on the "Journey of Choices." Suppose the 2 alternatives are a market system of allocation and a centrally planned system of allocation.
        - List the benefits of each.
        - What is the opportunity cost of choosing a centrally planned economy?
        - From your experience is this simulation, who would you say bears that cost?
    - Write a generalization that compares or contrasts markets and central planning systems of allocation in terms of "information" and "consumer satisfaction."

Ruble card	Dollar card
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ruble card	**Dollar card**
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ruble card	**Dollar card**
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ruble card	**Dollar card**
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ruble card	**Dollar card**
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ruble card	**Dollar card**
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ruble card	**Dollar card**
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Simulation Records

Planning Ministers

Round #	Pencil price	#pencils sold	#pencils left	Candy price	# candy sold	# candy left	#unhappy consumers
1							
2							
3							

Store Owners

Round #	Pencil price	#pencils sold	#pencils left	Candy price	# candy sold	# candy left	#unhappy consumers
1							
2							
3							

Lesson 3
Incentives Matter: The Firm in the Soviet Union

Key Economic Concept: People respond to incentives

Related concepts: Entrepreneur, Profit, Competition, Innovation, Productivity

Content Standards and Benchmarks (4 and 14):

Standard 4: *Students will understand that:* People respond predictably to positive and negative incentives.

Benchmarks: *Students will know that:*

- Rewards are positive incentives that make people better off.
- Penalties are negative incentives that make people worse off.
- Both positive and negative incentives affect people's choices and behavior.
- People's views of rewards and penalties differ because people have different values. Therefore, an incentive can influence different individuals in different ways.
- Responses to incentives are predictable because people usually pursue their self-interest.
- Changes in incentives cause people to change their behavior in predictable ways.
- Incentives can be monetary or non-monetary.
- Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.

Standard 14: *Students will understand that*: Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failure.

Benchmarks: *Students will know that:*

- Entrepreneurs are individuals who are willing to take risks in order to develop new products and start new businesses. They recognize

opportunities, enjoy working for themselves, and accept challenges.
- An invention is a new product. Innovation is the introduction of an invention into a use that has economic value.
- Entrepreneurs often are innovative. They attempt to solve problems by developing and marketing new or improved products.
- Entrepreneurs compare the expected benefits of entering a new enterprise with the expected costs.
- Entrepreneurs accept the risks in organizing resources to produce goods and services and they hope to earn profits.
- Entrepreneurial decisions are influenced by government tax and regulatory policies.

Lesson Theme: The legendary inefficiency of productive efforts and the seemingly perverse behavior of firms in the former Soviet Union can be explained by examining the incentives faced by the managers of those enterprises, and by recognizing how those incentives differed from incentives faced by workers and planners.

Student Activity: ***Why Would Anyone DO That? - Incentives Matter***

Students in small discussion groups receive a series of vignettes describing scenarios of seemingly illogical actions on the part of Soviet producers and consumers. (Vignettes are taken from a variety of sources and describe real-world occurrences.) Each group is asked to figure out an explanation for the "strange" behavior based on clues about the operative incentives facing the Soviet citizens featured in the stories.

Key Points:

1. Review: The concepts of opportunity cost and markets are also useful tools when looking at the firm in the Soviet economy.
    - Like officials in the planning bureaucracy, managers were confronted by scarcity, and made choices that engendered opportunity costs.
    - Managers of firms also faced, often more directly than the planners, the problem of missing markets and the lack of information.
    - Added to the concepts of scarcity, choice, cost, and markets, the economic concept of incentives is a useful tool for analyzing the sources of failure at the next level of the Soviet economy, the level of the firm where actual production of goods and services took place.
    - In short, we can explain the seemingly inexplicable behavior of Soviet firms by understanding that the system failed to "get the incentives right."
        - The central government planners ignored the incentives that stem from people's attention to their self interest.
        - The economic concept of incentives is a powerful tool for explaining human behavior.
        - Incentives are rewards or penalties for behavior.
        - Incentives can be either positive or negative, and can thus encourage or discourage a particular action.
    - A fundamental principle of economic analysis is that "People

respond to incentives."

- In market based economies, prices send signals that act as incentives to buyers and sellers, changing their behavior — that is, the amount of a good or service they are willing to purchase or to offer for sale.
  - The popularity of "Beanie Babies" and the price they sell for has sent a message to other producers to make stuffed toys that are similar to "Beanie Babies."
  - When coffee prices rise rapidly, many consumers choose to drink less coffee by substituting some other drink or by simply not drinking as much.

2. Market based economies utilize the power of profit as an incentive.
   - Profit motivates entrepreneurs to accept the risk of acquiring and organizing resources to seek market opportunities.
     - The entrepreneur takes whatever profit or loss results from an enterprise.
     - (This claim on the residual - the profit or loss - leads to the entrepreneur sometimes being referred to as the "residual claimant.")
   - The entrepreneur's desire to avoid loss and make profit provides an incentive to engage in 2 useful behaviors:
     - to innovate in order to reduce the cost of providing goods and services; and
     - to improve product quality and service.
   - The economy of the former Soviet Union substituted managers for entrepreneurs and quota-based systems of incentives for profit; the result was a system biased against the innovative and cost-reducing strategies that are key to the success of western economies.

3. Conceptually, Soviet firms and farms were parallel structures to western enterprises.
   - They were nominally decentralized.
   - They employed labor and purchased raw materials in order to produce output.
   - However, the constraints of limited raw materials that a Soviet factory manager faced and the payoffs that determined his choices - output targets instead of profits - differed in important ways from those facing his American counterpart.
     - Consequently, the dynamic of market economies that leads to cost-cutting production techniques and the introduction of innovations was missing in the Soviet Union.

4. Quotas - output targets - rather than profit motivated the Soviet factory manager.
   - Incentives were geared primarily toward achieving the quantitative output targets set by the central planners and the ministries.
     - Managers were rewarded solely on their ability to reach the production targets.

- The emphasis on output rather than cost led to risk avoidance on the part of managers.
  - Innovation is a risk, and was studiously avoided by managers.
  - There were no incentives for them to engage in risk-taking.
- Maintaining the status quo was generally the safest strategy given the incentive structure facing the factory manager.
  - Central planners had little knowledge of plant processes and tended to set targets primarily by observing a firm's production level in the previous planning period.
- Missed targets meant no managerial bonuses, and surpassing targets caused quotas to be raised for the next year.
  - Production goals and output quotas dampened managerial enthusiasm for introducing new products and production techniques.
  - Change was costly; both in terms of the risk of failure and in terms of the costs in time to train workers in new methods of production.
  - At very high cost, even to the point of fabricating their own replacement parts, enterprise managers were more apt to repair or even rebuild an old machine rather than introduce a more complicated and possibly more efficient one because the installation and training time might extend beyond the quota period.
- Since managers were rewarded for not rocking the boat, they tried to protect themselves from unforeseen contingencies.
  - This was done by building up reserves of spare parts and special items, padding payrolls, storing up inventories of key inputs and by building slack into targets.
- The economy gradually built up more and more unused resources throughout the system and increased waste.
  - Because of soft budget constraints and the consequent ease of acquiring financial funds (to be covered in point #6), this went unchecked.

5. In addition to shifting the emphasis from profit to output, the incentive system facing the enterprise manager in the Soviet Union reflected two perverse arrangements: the soft budget constraint and the ratchet.
   - The soft budget constraint refers to the practice of allowing an enterprise to exceed its budget for production inputs if the manager could convince planners that without more resources, the factory would be unable to reach its output targets.
     - This is much like a child having his allowance increased every time he overspends.
     - Thus, managers had little incentive to reduce cost or adopt cost-saving innovations.
     - Conversely, industrial authorities at the ministerial level tended to confiscate unanticipated surpluses (revenues) that showed up in a factory's accounts.
     - The result was that managers saw no benefit in overfilling their quotas and tended to hide the true

productive capacity of their plants.

- The ratchet, or practice of overstating needs for raw materials, also resulted from the almost exclusive focus on output targets.
  - Because resources were allocated on the basis of cost, managers had incentives to supply biased information to the overseeing ministry, which, in turn, had an incentive to ratchet up cost figures before passing them along to central planners.
  - The manager benefited by overstating costs so that he could obtain extra resources.
  - Similarly, managers tended to employ excess workers as insurance against the possibility of increased production targets.

6. The result of this perverse system of incentives is well-documented in the stagnation, inefficiency, and corruption which characterized the Soviet economy.
   - Stagnation: Emphasis on output led to risk avoidance and a dearth of research and innovation at the level of the firm, which slowed modernization.
     - Separate ministries for research and innovation existed, but they were independent of specific production processes.
     - Research was undertaken for its own sake and not for its application to cost-cutting technologies.
   - This resulted in inefficiency, constant shortages, and misallocation of resources.
     - Outdated technologies were standard as were breakdowns in production processes.
     - Because targets were stated in terms of finished output, there were chronic shortages of spare parts.
     - The results were often work slow-downs or stoppages in other production sectors. It was not uncommon to see tractors sitting idle, waiting weeks for spare parts, while fields were tilled by hand.
   - Corruption: Bribes to allocators to gain access to supplies increasingly became an accepted practice, and most productive enterprises employed individuals in the full-time task of securing additional resources in illegal secondary markets.
     - One consequence was a proliferation of channels of economic and political monitoring created in recognition of the potential for diversion of resources.
     - This was costly not only in terms of lost efficiency, trust, and higher transaction costs, but also in terms of freedom and it made the task of planning even more difficult.

Conclusion: Compared to a market-based firm, the behavior of the Soviet firm was perverse. The explanation of this behavior has little to do with the character of the individuals involved and everything to do with the incentives embodied in the system. Competitive markets reward firms for good performance with profits and usually penalizes poor performance with reduced profits or losses. The Soviet ministry, on the other hand, penalized

managers for any disruptions and rewarded them for meeting targets. In the end, the manager who was most effective at hoarding resources, and was therefore the least efficient, received the rewards. Economic planners, producers, distributors, and other agents lost credibility.

Activity Lesson #3

Why Would Anyone DO That? - Incentives Matter

Lesson Overview: Five vignettes describe seemingly stupid or illogical behavior on the part of Soviet producers and consumers. With the help of some hints to direct their thinking, students identify the operative incentives, explain how those incentives led to the resulting human behavior, and propose changes in incentives that would modify behavior.

Economic Concept: People respond to incentives.

Economics Content Standards:

Standard 4: *Students will understand that:* People respond predictably to positive and negative incentives.

Benchmarks: *Students will know that:*

- Both positive and negative incentives affect people's choices and behavior.
- People's views of rewards and penalties differ because people have different values. Therefore, an incentive can influence different individuals in different ways.
- Responses to incentives are predictable because people usually pursue their self-interest.
- Changes in incentives cause people to change their behavior in predictable ways.
- Incentives can be monetary or non-monetary.
- Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.

Materials:

- Student Handout - *"Perverse Incentives" (copy each scenario on a separate sheet of paper)*

Time required: 1-2 class periods

Assessment:

Working with a partner, compare and contrast the incentives that operate in private school and public school classrooms.

- Identify the incentives for:
  - teachers
  - students
  - parents

- What are the "output targets?" What's produced and how is it measured? Who are the consumers, what are they "buying" and what do they pay?)
- Explain how each of the above is likely to *respond to incentives* - that is, predict their behavior.
- What did you learn about the incentives facing the Soviet firm that informs your analysis of the public school / private school comparison?

Teacher Note: *This assessment requires a transfer. Some students will need more help than others in answering the question, not because of their understanding of the definition of incentives, but because of difficulties transferring their understanding to a new situation. It is important to intentionally teach transfer rather than assuming students will "get it" by themselves. Encourage students to approach this problem by looking at the assessment problem and the scenarios they worked on in groups and asking "What's the same?" and "What's different?" Emphasize the worksheet questions that ask students to transfer - the effects of changing targets from number units to weight, for example - by pointing out this transfer to students and asking them to define the steps they took in making the transfer.*

Procedures:

1. Review with students the definition of Incentives:
   - Incentives are rewards or penalties that influence people's behavior.
   - Prices are incentives for buyers and sellers in market economies.
     - Changing prices change people's willingness to buy or sell.
   - Remind students that in the Soviet Union prices did not change with market forces and that firms were not allowed to keep any profits they made, so prices and profits did not act as incentives in the same way as they do in our economy.
     - The focus here is to identify the incentives that, in the absence of market prices, operated in production and sale of goods and services in the Soviet Union, and to use recognition of those incentives to explain behavior that would otherwise seem strange and illogical.

2. Distribute handouts, *Perverse Incentives,* and work through scenario 1 with the entire class.

3. Divide students into discussion groups of about 4-6. Appoint a discussion leader, a recorder, and someone whose job it is to help guide the discussion by asking 2 questions when necessary or appropriate:

- have we identified the incentives?
- how is this behavior the same as and different from behavior we would expect as a result of the incentives that operate in market based economies?

Group work time for scenarios 2-5.
(To shorten the exercise, assign one scenario to each group, making sure that there are 2 groups working on each scenario.)

4. Debrief
   - Share solutions, conclusions, etc. in large group.
     or
   - Pair the discussion groups. One group presents a scenario and their analysis and the other group evaluates. Groups switch roles for the next scenario.
     or
   - After students have discussed all the problems, assign each group to present one to the assembled class.

Student Handout

Perverse Incentives

Scenario 1

Professor Judy Thornton of the University of Washington reports that when she was a student in Moscow, "...the small, blue metal lamp on my dormitory desk was so heavy it took two people to lift it. The lamp base had been filled with lead ..."

The problem of grossly heavy products was not limited to the lamp industry, however. Professor Thornton tells of a cartoon that appeared in *Krokodil*, a popular weekly magazine, in which the entire staff of a plant is shown carrying a single giant nail out of the factory.

Clues

- Both of the factories mentioned here - the lamp factory and the nail factory - faced quotas and devised strategies to meet and exceed their quotas. Being paid depended on meeting the quotas and bonuses were given for exceeding them.

Given this information:

1. Predict the basis on which the quota of the lamp factory was set.
2. Change the quota to another basis and predict the resultant change in behavior and in output.
3. Finish the caption on the nail cartoon: "Well, comrade, I see that our quota is measured in _____ this month."

4. Predict the change in the cartoon picture change if the caption read, "Well comrade, I see that our quota is measured in finished units this month."

5. Professor Thornton also experienced the effects of changing the output targets or basis on which the quotas were calculated. When her desk lamp burned out, she found that the state stores had "...tiny night lights or giant flood lights but not bulbs suitable for a desk lamp." She discovered that the explanation for the production of light bulbs no one wanted and the failure to produce light bulbs people needed was found in the output targets. The output target that resulted in thousands of tiny night lights was _____. When the output target was changed to _____, the result was giant flood lights.

6. Professor Thornton explains that the quota based incentives encouraged factories to consciously sacrifice or trade off "the unmeasured dimensions of product quality in order to maximize on measured dimensions."
    - What do you suppose that means?
    - Suppose the measured dimension of a clothing factory's' output was number of finished units.
        - List some of the "unmeasured dimensions" of clothing that the factory could alter in order to maximize the number of finished products each month.
    - If the output target is number of finished units, predict the size of clothing that would be most available in the state stores.
    - What target would change the clothing size to the other end of the spectrum?

Scenario 2

In their book, ***Meltdown - Inside the Soviet Economy***, authors Paul Craig Roberts and Karen LaFollette report on the seemingly mysterious propensity of Soviet geologists for drilling many shallow holes rather than a smaller number of deep holes. Since most of the oil deposits lie at relatively deep levels, it is not too surprising that "...Soviet geological expeditions in the Republic of Kazakhstan have not discovered a valuable oil deposit for many years.... The surprising fact is that they were "...considered successful .... The geologists and ministers are paid handsomely for their efforts, everyone goes out and gets drunk, and no one cares that the whole exercise has been an extraordinary waste of time and money." (p.10)

Further investigation reveals that Soviet geologists are very well-educated and clearly no less intelligent than geologists in the rest of the world. How then, can we explain their actions?

Clues

- In the process of oil-well drilling, the deeper the hole, the slower the drilling progress.
- The Soviet geologists were paid on a quota and premium system; that is, they were paid if they reached their quota and received bonuses if they exceeded it.

Given this information:

1. Start with the quota system. What do you suppose the quotas were based upon?
    - Brainstorm a list of possibilities.
2. For each item on your brainstorm list, identify the incentives for the geologists and predict the behavior they would be most likely to engage in. Which item on your list best explains the behavior the authors reported?
3. If you were the minister in charge of oil production, how would you change the system to create incentives that would encourage the production of oil rather than oil wells?
    - What perverse outcomes might occur as a result of your new target?

Scenario 3

Roberts and LaFollette report on another phenomenon of the Soviet system - the virtual impossibility of obtaining spare parts:

"The perpetual shortage of spare parts and the dismal repair service in every Soviet industry can also be traced to the bizarre [production] incentives .... Indeed, factories suffer such a severe shortage of spare parts that workers often 'undress' finished goods to acquire the needed parts before delivery. Repairs are a nightmare. In a typical instance, a state farm in Minsk sent its trucks to be repaired by the Slutsky Auto Repair Shop. The repair shop insisted on full payment before the farmers could inspect the trucks. Little wonder that they wanted their money first, because even poorly fixed trucks would have been an improvement over the truth: not only had the trucks not been fixed at all, but they had been stripped bare of parts they started out with. The farm's driver had to haul them back to the farm where two weeks were spent replacing the parts and fixing the stripped trucks. Too late, the farmers learned that sizeable (sic) bribes must be paid to repair people to ensure the intended outcome. Members of the repair shop staff have turned their employer into their own private gold mine.

The Soviet press cites numerous instances of simple repairs that cannot be done because of an acute shortage of a tiny part. One woman was told she could not have her sewing machine fixed because a fastening screw was missing from the machine, a part that for years has been almost impossible to find. The unavailability of parts afflicts items as diverse as washing machines, refrigerators, irons, hair dryers, mixers, calculators, saws, and drills, reducing them to junk without the needed replacement parts." (p.

13-14)

The question for you to consider is: ***Why doesn't anyone produce spare parts***?

Clues:

- Factories have the ability to produce spare parts. For example, a tractor factory could spend part of its time and other resources to produce spare parts for its finished products.
- Again, the answer is not stupidity - or even ignorance or lack of information. The shortage of spare parts is a problem everyone knows, and complains, about. In fact, as Roberts and LaFollette report,
    - "A shadowy character has arisen from the universal shortages: the *tolkach*. ...The *tolkachi* are people who have a network of personal connections enabling them to locate a source for virtually any item. They extensively use the black market in stolen state goods and are provided with expense accounts to wine and dine and bribe anyone who can wrangle supplies." (p. 15)
- Don't get sidetracked by character issues. No one has found any evidence to support the idea that Soviet citizens were markedly different in their essential human character from people living in other places - no more or less naturally likely to steal, bribe, cheat etc.

Given this information:

1. Start with incentives. Given what you have learned about the Soviet system, how do you suppose that managers of tractor factories are paid?
    - Predict - what are the "...bizarre incentives..." that Roberts and LaFollette refer to?

2. Why do you suppose there were no factories specifically for the production of spare parts? (Now you have to think about the incentives facing not only the factory managers but also the planning ministers.)

3. Predict the impacts of the shortage of spare parts on the system as a whole. How did the system adapt? (For example, just because the tractor is broken doesn't mean that farm work stops. What kinds of accommodations are likely to take place? What is the net effect on the production?)

4. How might you change the incentives to produce more desirable outcomes? (What is the desirable outcome?)

Scenario 4

It was common in the Soviet Union for very showy dedication ceremonies to mark the opening of new buildings, housing, and other major constructions.

Consider the following description of what went on behind the scenes as the official acceptance committee came to celebrate the completion of a new apartment building in which some of the bathtubs had been stolen.

"'...the construction superintendent ...was triumphantly showing the official acceptance committee around the first stair landing ... and he did not omit to take them into every bathroom, too, and show them each tub. And then he took the committee to the second-floor landing, and the third, not hurrying there either, and kept going into all the bathrooms - and meanwhile the adroit and experienced [laborers], under the leadership of an experienced foreman plumber, broke bathtubs out of the apartments on the first landing, hauled them upstairs on tiptoe to the fourth floor and hurriedly installed and puttied them in before the committee's arrival.'" (11-12)

Clues:

- People cannot occupy an apartment building until it has been officially accepted.
- The construction company is allotted a number of bathtubs for each project.

Given this information:

1. Explain the moving bathtub scam in terms of incentives (at all levels).
    - Why were the building officials willing to go along with the scam?
    - Why were the workers?

2. Predict the reactions of potential apartment dwellers.
    - Will they be unwilling to move into an apartment because it doesn't have a bathtub?
    - Predict the likelihood that someone who moves into a bathtub-less apartment will be able to get the construction company to install one.
    - What might be more effective ways for the apartment dweller to secure a bathtub?

3. Generalize from this instance and your insight into the incentives facing workers and managers in the construction industry - what would you predict to be the general level of construction quality in the Soviet Union and why?

4. Who bore the costs of the perverse incentives that permeated the construction industry?

- **Scenario 5**

The following anecdote circulated in the United States in the late 1980s and seems to have come from the experiences of Americans traveling in the Soviet Union.

In the streets and informal markets of the city, there were vendors of light bulbs and they often had significant numbers of buyers. At first glance, this

wasn't surprising, as any visitor who had entered a Soviet building could easily see that light bulbs were apparently in short supply. Entryways and stairwells were often quite dark, and when light fixtures were in evidence, they almost never had bulbs. So, it didn't seem strange to see people buying light bulbs - until, that is, the observer discovered that the people were buying light bulbs that didn't work. The bulbs often looked normal enough, but usually the filament was broken and the bulb had burned out. Even more amazing is that the customers seemed to know and accept that the bulbs wouldn't work. When asked why he was purchasing broken light bulbs, one Soviet citizen seemed puzzled that the American observer would ask, and responded, "Well, to take them to work, of course."

Clues

- Light bulbs were in perennially short supply in the Soviet Union.
- Government offices, factories, etc. received shipments of light bulbs first. Only then were remaining bulbs offered for sale in state stores.
- Despite this fact, hallways, closets, and bathrooms in government offices and factories were almost always dark.
- There did not seem to be any serious government effort to stop the sale of broken bulbs.

Given this information:

1. Explain the phenomenon of the burned-out-light-bulb vendors in terms of incentives and their effect on human behavior. Include the behavior of:
    - light-bulb vendors,
    - workers / consumers,
    - government officials.

2. Compare and contrast the ways in which American citizens and Soviet citizens "pay" for light bulbs.

3. Soviet citizens paid for light bulbs with money, but they also paid in other ways. What non-monetary "payments" did they make?
    - Do you think the non-monetary costs or the money cost was a greater burden? Explain your thinking.

Teacher Notes - Scenario 1

1. The output targets for the lamp factory were set in terms of tons of finished output.

2. Suppose the quota was set in number of finished units. One

would expect the lamps to be very small and extremely lightweight. The new problem would not be moving them, but keeping them from being broken.

3. tons

4. Millions of tiny, skinny nails, not long enough to go through a board or hold anything together.

5. number of units (tiny light bulbs maximize this) to total wattage (huge flood lights)

6. The short answer here is that the Soviets got what they asked for. If they measured number, but not size, they got a large number of units and size was adjusted. If they measured weight, weight was increased and number of units was adjusted. Because quality was not measured - that is, included in output targets - quality was usually sacrificed to meet the measured standards.
    - Measuring clothing output in finished units meant getting lots of small clothes - an overabundance of baby clothes and no coats for adults.
    - If clothing output was measured in yardage of cloth, then large men would have coats and children would have none.

Teacher Notes - Scenario 2

1. The output targets were based on meters drilled. Since drilling slowed down as the hole became deeper, it was much faster to drill lots of shallow holes than one or two deep holes. When oil lies far below the surface, the likelihood of finding much oil is small.

2. Remind students that they cannot just change to market pricing; they must come up with an output target. Many groups will immediately change the output target to barrels of oil; encourage them to think how they would behave. Some possibilities: Firms would be reluctant to drill unless they were certain of hitting oil, so less drilling would occur. When oil was found, numerous wells would be drilled in a small area to maximize the number of barrels that could be extracted in a short time. One effect might be a very erratic supply of oil - large amounts until a drilling area was depleted, then very little - because no one wanted to take the risks of drilling a dry well.

Teacher Notes - Scenario 3

1. Roberts and LaFollette offer the following evidence of the perverse incentives that result from quotas based on new production: "One planning engineer in a machinery manufacturing plan explains the

lack of spare parts: 'The director of this factory figures that if he puts out 100 machines with the proper quantity of spare parts, he does not get a premium. But if he puts out 102 machines and no spare parts, then the chief engineer and all the technical personnel get premiums. There is not enough stimulus for producing spare parts.'" (p. 13)

2. No one celebrated partial production. The ministers wanted to be able to tell the planners about finished production - numbers of new tractors. The planners would trumpet their phenomenal successes in the headlines of *Pravda,* the official newspaper. No one wanted to talk about old tractors breaking down and needing repair. The ministers' positions and influence rested on their ability to tell the planners that goals for new output were being met. Producing spare parts took resources away from new output.

3. The overall impact of the shortage of spare parts was to slow down production and innovation. Valuable resources - especially human time and ingenuity, went into "making do," crafting a replacement part out of whatever was handy, in order to keep machinery running. The result was that even though the machinery was running, it was likely to be less productive. Managers of factories and farms were reluctant to accept new or unproven technologies and innovations because they didn't know how reliable they would be, and at least with the old machinery, they had figured out a way to keep it running. As you can see, the outward ripple of inefficiency would spread; the net effect of the lack of spare parts was lower productivity, lower output, and lower standards of living.

4. Students may generate a variety of answers here. Whatever their answer, ask them to identify incentives and how those incentives are likely to impact production. Ask them to think beyond short term and to look for unintended consequences.

Teacher Notes - Scenario 4

1. The official acceptance committee, the construction superintendent, and the workers were rewarded in terms of finished construction, and the apartment could not be called finished until the inspectors had seen the bathtubs. Conversely, there was no penalty to the officials, the superintendent or the workers, once the building was declared "finished," for an apartment that had no bathtub. In fact, consumer complaints were often met by blaming the consumer:
    - One hapless woman bought a down comforter. In the winter when she tried to use it, the down and feathers came out through the covering. She sent the comforter back to the Kotovsk Down and Feather Factory to be replaced. ...the factory wrote a nasty letter accusing her of abusing the

comforter and causing the stuffing to come out. *Pravda* correspondent A. Golovenko says that this kind of response is very common; a factory director can "beat off any 'nonscientific' complaint sent by a simple-hearted buyer as if it were a piece of fluff. All he has to do is accuse the buyer of not following the instructions for using the item.

2. Apartment dwellers would wait in line to move into an apartment with no bathtub - because the alternative was no apartment. Waiting lists for apartments were 5-20 years.
    - The apartment dweller will have no luck getting a bathtub from the construction superintendent; remember that he is rewarded for new construction, not for making repairs to apartments that have already been officially accepted as finished.
    - The best way for an apartment dweller to secure a bathtub would be to buy one on the black market (maybe from the person who took them from the unfinished apartment building in the first place!)

3. Construction quality was abysmal, running the gamut from ugly to dangerous. The stereotype of the crumbling concrete box structure is firmly grounded in reality.
    - Given that output targets are in terms of finished units, the measured dimension becomes the number produced; the unmeasured dimension that is routinely sacrificed is quality.

4. Apartment dwellers bore the costs.

Teacher Notes - Scenario 5

1. Workers take the burned-out light bulbs to work, hidden in their pockets. When they go to the bathroom, or find themselves alone in a hallway or supply closet, they replace the working bulbs there with the burned out bulbs from their pockets. They take the new bulbs home. The factory reports another burned out bulb and receives more when they become available.
    - Light bulb vendors are motivated by profit to accept the risks of a quasi-legal enterprise.
    - Workers accept the costs and risks of petty thievery from their employers because the transaction costs of getting light bulb legally are so high.
    - The government looks the other way because the costs of acknowledging and dealing with the problem of shortages are so high.

2. American citizens pay for light bulbs by trading their income (earned by working) for bulbs. Soviet citizens pay for light bulbs with their time as well as with their money.

3. The non-monetary costs to the Soviet citizens include such things as time spent finding light bulbs and time spent waiting in line. (Economists refer to these as transaction costs.

Transaction costs are the focus of activity #5.)

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Lesson Four
Propoerty Rights: Soviet Farms

Key Economic Concept: Property Rights

Related concepts: Private Property, Incentives, Collectivization, Profit, Tragedy of the Commons

Content Standards and Benchmarks (4, 10, and 16):

Standard 4: *Students will understand that:* People respond predictably to positive and negative incentives.

Benchmarks: *Students will know that:*

- Rewards are positive incentives that make people better off.
- Penalties are negative incentives that make people worse off.
- Both positive and negative incentives affect people's choices and behavior.
- People's views of rewards and penalties differ because people have different values. Therefore, an incentive can influence different individuals in different ways.
- Responses to incentives are predictable because people usually pursue their self-interest.
- Changes in incentives cause people to change their behavior in predictable ways.
- Incentives can be monetary or non-monetary.
- Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.

Standard 10: *Students will understand that:* Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporations, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and well-enforced property rights, is essential to a market economy.

Benchmarks: *Students will know that:*

- Property rights, contract enforcement, standards for weights and measures, and liability rules affect incentives for people to produce

and exchange goods and services.

Standard 16: *Students will understand that:* **There is an economic role for government to play in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income.**

(Note: Standard 16 is written in reference to market economies; however, it can be approached through comparison / contrast to centrally directed economies like that of the Soviet Union.)

Benchmarks: *Students will know that:*

- An important role for government in the economy is to define, establish, and enforce property rights. A property right to a good or service includes the right to exclude others from using the good or service and the right to transfer the ownership or use of the resource to others.
- Property rights provide incentives for the owners of resources to weigh the values of present uses against the value of conserving the resources for future use.

Lesson Theme: The agricultural system suffered from all the problems of industry, and its performance was further hampered by the government's imposition of heavy in-kind taxation on the rural population and by its inability to exercise effective property rights in land.

Student Activity: ***"What Do I Care" Who Owns It -***
Farming for Myself or Farming for Everyone?

The nature of individuals' rights to property affects opportunity costs and choices. Student farming teams wrestle with the problem of choosing when and if to sow their wheat seed or let land lie fallow. This quick, worksheet-based, competitive activity clearly illustrates the incentives for human behavior under different systems of rules about land ownership.

Key Points:

1. The economic principles we have employed throughout these lessons continue to be useful in examining the failure of collectivized agriculture to provide an adequate food supply, so that by the 1970s, the Soviet Union was importing grain from the west.

2. The story of agricultural collectivism under Stalin's leadership, is a story of resistance, bloodshed, and allocation by force.
    - As discussed in lesson 1, the choice to promote rapid industrial development was made at the expense of the peasants who suffered under controlled prices and restrictions on trade.
    - Under Stalin, peasants were forced from their land and coerced into living and working on giant collective farms, or

kolkhozy.
    - Typically, collectives would have hundreds to thousands of workers - a scale much larger than is typically considered an efficient agricultural production unit.
    - Until Stalin's death in 1953, the peasants did not have a legal right to leave the Kolkhozy and migrate to the city.
  - Peasants were forced to plant crops specified by the government and to deliver them to the government at confiscatory prices.
    - Food was then resold at much higher prices in the cities, thus generating revenue for the government at the farmers' expense.
  - Implicit recognition of the inability of the collective system to provide adequate production is seen in the persistence - and eventual government tolerance of - private garden plots.
  - While villagers had to deliver up their official crops to the government at controlled prices, they were able to support themselves by selling the produce of small private plots in urban markets at market prices.
    - This provided an income to the farmers, and was key to supplementing the government harvest to meet the demand for food in the cities.
    - It also encouraged agricultural workers to divert their time to their own plots of land.
    - By the 1970s and 1980s, private plots on 4% of all arable land produced 25% of Soviet agricultural output.

3. In the post-Stalin era, Khrushchev and later Brezhnev, raised government acquisition prices for food and stepped up government investment in agriculture, but the rural sector remained the Soviet Union's most backward sector.
  - Khrushchev tried to expand grain production by moving farmers onto the arid steppes of Kazakhstan, and setting up vast state farms organized like industrial firms, but Moscow was unable to organize the harvesting and transportation of crops from remote locations.
    - As a result, food rotted in the fields, while people in cities suffered shortages.
    - Rural youth and skilled men fled the farm sector.
    - By the 1980s, the median worker on a Russian collective farm was a fifty-five year old female with fewer than 6 years of education.
  - From an economic point of view, the fundamental problem in Soviet agriculture was poorly defined and poorly enforced property rights.

4. One of the keys to the success of market-based economies is the right to own, control, and receive the benefits from private property.
  - The existence of clearly defined and well-secured property rights creates incentives for owners to direct their property to its highest valued use.
    - This, of necessity, includes consideration of the value of conserving the resource for future use.

        - It also encourages the owner to ensure that the value of his property doesn't deteriorate - for example, through pollution.
    - In market based economies, private ownership confers two types of rights:
        - control rights - the right to control the use of property or transfer the control to someone else, and
        - benefit rights - the right to any value that may be created from the property.
            - For instance, the owner of a home near a large sports stadium can control the use of his property. He decides whether or not other people may park their cars on his lawn, and if he chooses to allow parking during sporting events, he receives the benefits - in the form of money - from using his property in this way.

5. In the former Soviet Union, <u>in theory</u>, the people owned everything because the state owned everything.
    - In reality, control rights and benefits rights were separated.
        - Ministry officials and plant and farm managers exercised control rights.
        - Benefit rights belonged to "the people," to everyone, and were to flow to workers through improved standards of living.
    - Both in the factory and on the farm, this situation created a moral hazard - incentives for abuses of power.
        - The government officials and plant and farm managers often used their control to try to create personal benefits.
            - Taking bribes and/or using "the people's" resources for their own benefit was endemic, expected, and at least tolerated if not actually condoned by the citizenry.
    - On the other hand there were no incentives to end this corruption.
        - The benefit rights were so diffuse - spread out among so many people, that no one could claim a direct payment from production or farming, and no one was directly responsible for losses.
        - On the Soviet collective, workers had no incentive to work harder; many to most shirked work whenever possible.
    - The result was a heavy emphasis on output with little or no concern for:
        - production costs, or
        - the best uses of land.

6. Another consequence of the "shared by all" property rights was that the Soviet Union experienced problems traditionally known by economists as the "tragedy of the commons."
    - People treated many resources and goods like common property, which meant that they felt no responsibility to take care of them.

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        - Economists have long recognized that when "the people" or "everyone" owns something, the incentives are the same as when no one owns it.
        - The peasant drove a tractor that everyone owned, out to till a field that everyone owned, to spread seed and fertilizer that everyone owned, to raise a crop that everyone owned!
    - The problems arising from an individual's sense of non-ownership include:
        - overuse and depletion of farm lands;
        - deterioration of capital equipment;
        - pollution and disregard for the total environment.
    - The consequence of collective "ownership" is made vividly clear. We recall from item 2, above; output comparison of the kolkhozy lands to that of private garden plots show that private plots reduced shirking and "free-riding" on the efforts of others.
        - To illustrate the "free-rider" problem, consider 10 workers who share ownership of the land and who collectively produce 100 bushels of corn, averaging 10 bushels each for consumption.
        - Suppose that one worker begins to shirk and cuts his labor effort in half, reducing output by 5. The shirker's consumption, like the other workers', is now 9.5 (95÷ 10) bushels thanks to the shared arrangement.
        - Although his effort has fallen 50 percent, his consumption falls only 5 percent. The shirker is "free-riding" on the labors of others.
        - The incentive for each worker, in fact, is to free-ride, and this lowers the total output.
    - Conversely, suppose that one worker considers working longer daily hours (12 instead of 10) to raise total output from 100 to 102. The gain in consumption to each individual is 0.2 bushels (2÷ 10).
        - Although the worker's effort increased by 20 percent, his consumption increased by only 2 percent.
        - There is no incentive for each worker to increase his effort.
    - More generally, with private property for each, any change in output from more effort goes to the person extending the extra effort. With common property, the gain is not in the change in output, but the change in output divided by the number in the group.
        - The larger the group, the less the gain from working harder and the less the loss from working less - from the individual's perspective.
        - In other words, the larger the group, the greater the incentive to free-ride.
    - In contrast to their approach to the common property, peasants improved their private plots and took care to preserve or build up their fertility.
    - The collective farm household eked out a living, supporting itself by pilfering grain and provisions from the collective farm to feed a milk cow and a few chickens and by selling the produce from its private plot in a nearby town.

Conclusion: The consequences of the absence of the incentives inherent in a system of well defined and secured rights to private property are clearly illustrated by the abject failure of Soviet agriculture. The inability to exchange land and allocate it to its most valuable uses resulted in endemic land misuse, overuse, and depletion, and to the human suffering that accompanied increasingly poor harvests.

Activity Lesson #4

'What Do I Care' Who Owns It? -

Farming for Myself or Farming for Everyone?

Lesson Overview: The nature of individuals' rights to property affects incentives, opportunity costs, and choices. Under different rules of property ownership, student farming teams wrestle with the problem of deciding whether to sow their wheat seed or let land lie fallow.

Economic Concept: property rights

Economics Content Standards:

Standard 4: *Students will understand that:* People respond predictably to positive and negative incentives.

Benchmarks: *Students will know that:*

- Responses to incentives are predictable because people usually pursue their self-interest.
- Changes in incentives cause people to change their behavior in predictable ways.
- Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.

Standard 16: *Students will understand that:* There is an economic role for government to play in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income.

Benchmarks: *Students will know that:*

- An important role for government in the economy is to define, establish, and enforce property rights. A property right to a good or service includes the right to exclude others from using the good or service and the right to transfer the ownership or use of the resource to others.
- Property rights provide incentives for the owners of resources to weigh the values of present uses against the value of conserving the resources for future use.

Materials:

- a bag of Tootsie Roll Pops or other candy
- Handouts:
  - Scenario - 1 per student
  - Role Handouts - 1 per student
    - *Copy the 3 role cards on different colored paper. Make enough of each color for 1/3 of the class members*
  - *"Who's Right?"* - 1 for each group of 3
  - overhead transparencies:
    - scenario
    - yield chart

Time required: 1 class period

Assessment:

Predict what happens to the quality and productivity of Bureau of Land Management (BLM) grazing land in the western United States when ranchers are given limited time leases and know that they will not have the opportunity to buy the land. Use the concept of property rights to justify your prediction.

Procedures:

1. Distribute the following scenario and read to class. Post it on the overhead for further reference.

   Farming Scenario

   Nick (or Nikki) and Samantha (or Sam) are siblings who have proudly followed the farming tradition of their family. Samantha has recently purchased a 200 acre piece of prime crop land. Because her farm is already big, she feels she only has time to farm about half of the new land and offers her brother the use of the rest of it, rent-free for 6 years, to help pay for his son's college tuition. She generously provides him with the following information that she gathered before purchasing the land:

   Best available predictions, based on production in surrounding areas with similar conditions, indicate that you can expect:
   - **each acre to produce 20 bushels of wheat in the first season;**
   - **each acre to decline in productivity by 20% each successive season;**
   - **land that lies fallow every other season will not decline in productivity.**

   Everything is fine until one Sunday when the whole family has gathered for dinner. Nick laughingly mentions that his older son, "the environmentalist tree-hugger" actually thinks that he should let part of the land lie fallow each year. Things get real quiet when Samantha responds, "I don't see what's so funny about

that," and Nick comes back with, "Well, I'm not stupid, am I?" It's not long before there's a full-blown argument, complete with enough yelling to drive all the children outside.

Finally, Grandma has had enough. She announces, "Your father will decide who's right, just as he did when you were kids. Come to dinner at our house tomorrow night and be ready to present your case." Nick and Sam agree and go off to prepare their arguments.

2. Divide students into groups of three and give the following directions:
    - Choose parts: Sam (or Samantha), Nikki (or Nick) and Dad (or Mom).
    - Working individually, read the corresponding role card and prepare your case.
    - Caution - Dad (Mom) isn't the only one who has to know both sides of the issue.
    - Any group of three that can arrive at a decision and support their decision with economic reasoning wins a prize (candy).

3. Answer only questions that clarify directions. Distribute the handouts. Allow students work time.

4. When all groups have finished, distribute the *Who's Right?* handout (or post a copy on the overhead). Students are to answer the questions as a team.

5. Poll the groups. Large group discussion and debriefing. Distribute candy prizes. Debriefing questions:

    - What is the maximum yield for 6 years if you let land lie fallow every other year?

      (1000 + 1000 + 1000 + 1000 + 1000 =1000= 6000) (Some students may choose 2000+0+2000+0+2000+0, which is fine as far as the exercise goes, but is probably unrealistic. A farmer would be unlikely to risk everything in one year knowing that he shouldn't plant at all the next year. If he only plants half of his land and then loses his crop to a hail storm, he can still plant the other half the following year.)

    - What is the maximum yield for 6 years if you do not let the land lie fallow every other year?

      (2000 + 1600 + 1280 + 1024 + 819.2 + 655.36 = 7378.56)

    - What is it about Samantha's situation that makes producing 6000 bushels better than producing 7378.56 bushels?

      (Her property right; the fact that she owns the land and can realize a return from selling it, if she keeps it productive.)

    - What is it about Nick's situation that makes it rational to never

let the land lie fallow?

(Nick is trying to maximize the value of the land in the time he has to use it. Since he doesn't own the land, and foresees no possibility that he will, he has no incentive to care about the quality of the land at the end of the 6 year time period. If he lets any land lie fallow over the 6 years, he reduces the amount he can earn.)

- How does the nature of property rights influence opportunity cost, and therefore decisions about land use in this case?
  - What is Nick's opportunity cost of planting all 100 acres every year? *(nothing)*
  - What is Nick's opportunity cost of letting half the land lie fallow?

(7378.56- 6000 = 1378.56 bushels)

  - What is Sam's opportunity cost of planting all 100 acres every year?

(8000 - 7378.56 = 621.44 bushels)

- What is Samantha's opportunity cost of letting half the land lie fallow?

(In the short run, Sam produces 1378.56 fewer bushels of wheat, but in the long run, Sam sells the land and the opportunity cost is more than covered by the sale.)

- If we extend the use period to 10 years, does the situation change; is it still in Nick's best interest to deplete the land?

(No, the situation doesn't change; Nick is still better off to deplete the land.)

- What dilemma does this set of incentives create for Nick?

(It creates a potential conflict. It is not in Nick's economic best interests to preserve the productivity of the land. One way to look at it is that it costs him more to be a conservationist than it does Samantha. On the other hand, there is a cost in having Sam angry with him . . .)

- Who is right, Nick or Samantha?

"Dad" should decide that both his children are right. Because Nick doesn't own the land, his economic best interests are served by using the land to its full productive potential each year. He reaps no economic benefit from letting any of the land lie fallow. Samantha, on the other hand, has a property right, which means that it is in her economic best interest to maintain the value of the land so that she can capture that value when she eventually sells the land. Students may bring up the fact that Nick and Samantha might never had this disagreement because they have other than financial interests - like getting along with each other. It's important to acknowledge that non-monetary factors such as emotional ties, because they change the how people define their best interests, might produce different behavior than would occur if the people in the simulation were strangers.

6. Transfer: The next step is to teach students to transfer what they learned in the simulation to the collectivization of agriculture in the Soviet Union.

Before students begin work on the questions, ask the class to fill in the following charts comparing Soviet collective agriculture to the Samantha and Nick scenario. *(See overhead transparency master at end of lesson.)*

	Samantha's situation	**Soviet collectives**
What's the same?		
What's different?		

	Nick's situation	Soviet collectives
What's the same?		
What's different?		

Pose the following question:

- Over time, the practice evolved in the Soviet Union of allowing (or ignoring the fact that they did) peasants to keep small private garden plots. Again, using your understanding of incentives and property rights, predict the use, level of care, and level of output in private lots compared to collective fields.
  (Encourage students to make a chart, but this time, let them decide what they are comparing.)

- *There is a great deal of evidence that private ownership made a difference. Private plots were extremely well cared for, produced abundantly, and occupied as much of the peasants' time as they could take away from the work of the collective. By the 1970s and 1980s, private plots on 4% of arable land produced approximately 25% of total Soviet agricultural output.*

Role Card - Samantha (or Sam)

Your task is to create a plan which maximizes the value of the land you own. Here are the things you know:

- You have 100 acres to work with. (You won't go back on your promise to let your brother work the rest.)
- Each acre, currently, will produce 20 bushels of wheat.
- Yield will decline 20% every year with consecutive planting.
- Letting land lie fallow one year preserves the productivity level.
- If you maintain the full productivity of the land, you can sell it at the end of 6 years for the equivalent value of 2000 bushels of wheat.

Use the chart below to examine different alternatives and decide which one allows you to make the most from your land.

Alternative 1 - Never let the land lie fallow

year	acres planted	bushels grown per acre	bushels harvested
1	100	20	
2	100	16	+
3	100	12.8	+
4	100	10.24	+
5	100	8.192	+
6	100	6.5536	+
Total bushels of wheat produced in 6 years			=
Bonus for maintaining land productivity =			+ 0 bushels
Total value to you at end of 6 years			=

Alternative 2 - Let 50% of land lie fallow each year

year	acres planted	bushels grown per acre	bushels harvested
1	50	20	
2	50	20	+
3	50	20	+
4	50	20	+
5	50	20	+
6	50	20	+
Total bushels of wheat produced in 6 years =			=
Bonus for maintaining productivity of land =			+ 2000 bushels
Total value to you at end of 6 years =			=

Role Card - Nick (or Nikki)

Your task is to create a plan which maximizes the value of the land you are being allowed to use. (After all, your kids will be ready for college soon.) Here are the things you know:

- You have 100 acres to work with.
- Each acre, currently, will produce 20 bushels of wheat.
- Yield will decline 20% every year with consecutive planting.
- Letting land lie fallow one year preserves the productivity level.
- At the end of 6 years, you won't get to use the land anymore.

Use the chart below to examine different alternatives and decide which one allows you to make the most from the land over the time you may use it.

Alternative 1 - Never let the land lie fallow

year	acres planted	bushels grown per acre	bushels harvested
1	100	20	
2	100	16	+
3	100	12.8	+
4	100	10.24	+
5	100	8.192	+
6	100	6.5536	+
Total bushels of wheat produced in 6 years			=
Bonus for maintaining land productivity =			**+ 0 bushels**
Total value to you at end of 6 years			=

Alternative 2 - Let 50% of land lie fallow each year			
year	acres planted	bushels grown per acre	bushels harvested
1	50	20	
2	50	20	+
3	50	20	+
4	50	20	+
5	50	20	+
6	50	20	+
Total bushels of wheat produced in 6 years =			=
Bonus for maintaining productivity of land =			+ 0 bushels
Total value to you at end of 6 years =			=

Role Card - Dad (or Mom)

Aren't your kids a pain?!? They fought the whole time they were growing up and they're still at it. You'd better get ready. Each one is going to come to you and argue his case, and if you don't understand all sides of the issue, at least one of them is going to be mad and say that you played favorites.

Here's the information you have:

- Right now, each of your children has 100 acres to work with.
- Each acre, currently, will produce 20 bushels of wheat.
- Yield will decline 20% every year with consecutive planting.
- Letting land lie fallow one year preserves the productivity level.
- Samantha owns the land and, if it retains its productivity, she can sell it in 6 years for 2000 bushels of wheat.
- Nick doesn't own the land, and mad as Samantha is right now, he certainly isn't going to be able to farm it beyond the 6 years she's already promised.
- The only thing they seem to be able to agree on is that each wants to use the land in the way that will return the most money.

You have to figure out a logical way to resolve this dispute. They've listened to you in the past because your reasoning was so clear. You better hope it is this time, or the family feud is likely to continue and upset your Sunday dinners for years to come!

Use the chart below to examine different alternatives and decide what's best

for your kids and most likely to end the family disruptions.

Alternative 1 - Never let the land lie fallow

year	acres planted	bushels grown per acre	bushels harvested
1	100	20	
2	100	16	+
3	100	12.8	+
4	100	10.24	+
5	100	8.192	+
6	100	6.5536	+
Total bushels of wheat produced in 6 years			=

If Nick takes this option, does he get the 2000 bushel bonus at the end of 6 years? _____

What is the total value of the land to Nick at the end of 6 years?
_____ bushels

If Sam takes this option, does she get the 2000 bushel bonus at the end of 6 years? _____

What is the total value of the land to Sam at the end of 6 years?
_____ bushels

Alternative 2 - Let 50% of land lie fallow each year

year	acres planted	bushels grown per acre	bushels harvested
1	50	20	
2	50	20	+
3	50	20	+
4	50	20	+
5	50	20	+
6	50	20	+
Total bushels of wheat produced in 6 years			=

If Nick takes this option, does he get the 2000 bushel bonus at the end of 6 years? _____

What is the total value of the land to Nick at the end of 6 years? _____bushels

If Sam takes this option, does she get the 2000 bushel bonus at the end of 6 years? _____

What is the total value of the land to Sam at the end of 6 years? _____bushels

Who's Right?

Group members:

Who's right? (circle)

Dad's initial decision Nick Sam

Group's final decision Nick Sam

Explain your final decision, using economic reasoning. (Use back of sheet)

What economic concept(s) was key to understanding Nick's and Sam's different points of view? (Be sure you can explain this orally).

If Dad's initial decision is different from his final decision, what was wrong with his initial decision, and how and why were you able to convince him to change it?

Overhead transparency for teaching Transfer skills

Transfer Skills

	Samantha's situation	Soviet collectives
What's the same?		
What's different?		

	Nick's situation	Soviet collectives
What's the same?		
What's different?		

	what goes here???	what are you comparing???
What's the same?		
What's different?		

Role Card - Samantha (or Sam) ***(teacher guide)***

Your task is to create a plan which maximizes the value of the land you own. Here are the things you know:

- You have 100 acres to work with. (You won't go back on your promise to let your brother work the rest.)
- Each acre, currently, will produce 20 bushels of wheat.
- Yield will decline 20% every year with consecutive planting.
- Letting land lie fallow one year preserves the productivity level.
- If you maintain the full productivity of the land, you can sell it at the end of 6 years for the equivalent value of 2000 bushels of wheat.

Use the chart below to examine different alternatives and decide which one allows you to make the most from your land.

Alternative 1 - Never let the land lie fallow

year	acres planted	bushels grown per acre	bushels harvested
1	100	20	*2000*
2	100	16	*+1600*
3	100	12.8	*+1280*
4	100	10.24	*+1024*
5	100	8.192	*+819.2*
6	100	6.5536	*+655.36*
Total bushels of wheat produced in 6 years			*= 6378.56*
Bonus for maintaining land productivity =			+ 0 bushels
Total value to you at end of 6 years			*=6378 bushels*

Alternative 2 - Let 50% of land lie fallow each year

year	acres planted	bushels grown per acre	bushels harvested
1	50	20	*1000*
2	50	20	*+1000*
3	50	20	*+1000*
4	50	20	*+1000*
5	50	20	*+1000*
6	50	20	*+1000*
Total bushels of wheat produced in 6 years =			*=6000*
Bonus for maintaining productivity of land =			+2000 bushels
Total value to you at end of 6 years =			*=8000 bushels*

Role Card - Nick (or Nikki) *(teacher guide)*

Your task is to create a plan which maximizes the value of the land you are being allowed to use. (After all, your kids will be ready for college soon.) Here are the things you know:

- You have 100 acres to work with.
- Each acre, currently, will produce 20 bushels of wheat.
- Yield will decline 20% every year with consecutive planting.
- Letting land lie fallow one year preserves the productivity level.
- At the end of 6 years, you won't get to use the land anymore.

Use the chart below to examine different alternatives and decide which one allows you to make the most from the land over the time you may use it.

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2	100	16	*+1600*
3	100	12.8	*+1280*
4	100	10.24	*+1024*
5	100	8.192	*+819.2*
6	100	6.5536	*+655.36*
Total bushels of wheat produced in 6 years			*=6378.56*
Bonus for maintaining land productivity =			**+ 0 bushels**
Total value to you at end of 6 years			*=6378 bushels*

Alternative 2 - Let 50% of land lie fallow each year

year	acres planted	bushels grown per acre	bushels harvested
1	50	20	*1000*
2	50	20	*+1000*
3	50	20	*+1000*
4	50	20	*+1000*
5	50	20	*+1000*
6	50	20	*+1000*
Total bushels of wheat produced in 6 years =			*=6000*
Bonus for maintaining productivity of land =			**+ 0 bushels**
Total value to you at end of 6 years =			*=6000 bushels*

Role Card - Dad (or Mom) ***(teacher guide)***

Aren't your kids a pain?!? They fought the whole time they were growing up and they're still at it. You'd better get ready. Each one is going to come to you and argue his case, and if you don't understand all sides of the issue, at least one of them is going to be mad and say that you played favorites.

Here's the information you have:

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- Nick doesn't own the land, and mad as Samantha is right now, he certainly isn't going to be able to farm it beyond the 6 years she's already promised.
- The only thing they seem to be able to agree on is that each wants to use the land in the way that will return the most money.

You have to figure out a logical way to resolve this dispute. They've listened to you in the past because your reasoning was so clear. You better hope it is this time, or the family feud is likely to continue and upset your Sunday dinners for years to come!

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year	acres planted	bushels grown per acre	bushels harvested
1	100	20	*2000*
2	100	16	*+1600*
3	100	12.8	*+1280*
4	100	10.24	*+1024*
5	100	8.192	*+819.2*
6	100	6.5536	*+655.36*
Total bushels of wheat produced in 6 years			*=6378.56*

If Nick takes this option, does he get the 2000 bushel bonus at the end of 6 years? ___*no*_____

What is the total value of the land to Nick at the end of 6 years?
___*6378.56*___ bushels

If Sam takes this option, does she get the 2000 bushel bonus at the end of 6 years? ___*no*____

What is the total value of the land to Sam at the end of 6 years?
___*6378.56*___ bushels

Alternative 2 - Let 50% of land lie fallow each year

year	acres planted	bushels grown per acre	bushels harvested
1	50	20	*1000*
2	50	20	*+1000*
3	50	20	*+1000*
4	50	20	*+1000*
5	50	20	*+1000*
6	50	20	*+1000*
Total bushels of wheat produced in 6 years			***=6000 bushels***

If Nick takes this option, does he get the 2000 bushel bonus at the end of 6 years? __*no*_____

What is the total value of the land to Nick at the end of 6 years? ___*6000*___ bushels

If Sam takes this option, does she get the 2000 bushel bonus at the end of 6 years? __*yes*____

What is the total value of the land to Sam at the end of 6 years? ___*8000*___ bushels

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Lesson Five
Transaction Costs - Life in a Soviet Household

Key Economic Concept: Transaction Costs

Related concepts:

Incentives	Markets
Opportunity Cost	Prices
Secondary Markets	Creation of wealth

Content Standards and Benchmarks (1, 3, 4, 5, 16, and 17):

Standard 1: *Students will understand that:* Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

Benchmarks: *Students will know that:*

- Whenever a choice is made, something is given up.
- The opportunity cost of a choice is the value of the best alternative given up.
- Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.
- The choices people make have both present and future consequences.
- The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.
- Choices made by individuals, firms, or government officials often have long-run unintended consequences that can partially or entirely offset the initial effects of their decisions.

Standard 3: *Students will understand that:* Different methods can be used to allocate goods and services. People, acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.

Benchmarks: *Students will know that:*

- There are different ways to distribute goods and services (by prices, command, majority rule, contests, force, first-come-first-served, sharing equally, lottery, personal characteristics, and others), and there are advantages and disadvantages to each.
- There are essential differences between a market economy, in which allocations result from individuals making decisions as buyers and sellers, and a command economy, in which resources are allocated

according to central authority.
- Comparing the benefits and costs of different allocation methods in order to choose the method that is most appropriate for some specific problem can result in more effective allocations and a more effective overall allocation system.

Standard 4: *Students will understand that:* **People respond predictably to positive and negative incentives.**

Benchmarks: *Students will know that:*

- Both positive and negative incentives affect people's choices and behavior.
- People's views of rewards and penalties differ because people have different values. Therefore, an incentive can influence different individuals in different ways.
- Responses to incentives are predictable because people usually pursue their self-interest.
- Changes in incentives cause people to change their behavior in predictable ways.
- Incentives can be monetary or non-monetary.
- Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.

Standard 5: *Students will understand that:* **Voluntary exchange occurs only when all participating parties expect to gain. This is true for trade among individuals or organizations within a nation, and among individuals or organizations in different nations.**

Benchmarks: *Students will know that:*

- Exchange is trading goods and services with people for other goods and services or for money.
- The oldest form of exchange is barter - the direct trading of goods and services between people.
- People voluntarily exchange goods and services because they expect to be better off after the exchange.

(Note: Standards 16 and 17 are written in reference to market economies; however, they can be approached through comparison / contrast to centrally directed economies like that of the Soviet Union.)

Standard 16: *Students will understand that:* **There is an economic role for government to play in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income.**

Benchmarks: *Students will know that:*

- When a price fails to reflect all the benefits of a product, too little of the product is produced and consumed. When a price fails to reflect all the costs of a product, too much of it is produced and consumed.

Government can use subsidies to help correct for insufficient output; it can use taxes to help correct for excessive output; or it can regulate output directly to correct for over - or under - production or consumption of a product.
- Governments provide an alternative method to markets for supplying goods and services when it appears that the benefits to society of doing so outweigh the costs to society. Not all individuals will bear the same costs or share the same benefits of those policies.

Standard 17: *Students will understand that:* **Costs of government policies sometimes exceed benefits. This may occur because of incentives facing voters, government officials, and government employees, because of actions by special interest groups that can impose costs on the general public, or because social goals other than economic efficiency are being pursued.**

Benchmarks: *Students will know that:*

- Citizens, government employees, and elected officials do not always directly bear the costs of their political decisions. This often leads to policies whose costs outweigh their benefits for society.
- Incentives exist for political leaders to implement policies that disperse costs wisely over large groups of people and benefit relatively small, politically powerful groups of people.
- Price controls are often advocated by special interest groups. Price controls reduce the quantity of goods and services consumed, thus depriving consumers of some goods and services whose value would exceed their cost.

Lesson Theme: For the average householder, the consequence of the Soviet Union's collective choice of a centrally directed economy was the burden of incredibly high transaction costs in the form of time spent searching and queuing for goods and services. Transaction costs are significant in market economies too, but under the Soviet government system, they became extraordinarily high.

Student Activity: *"Na Levo" - When Acting Within the Law Is Inconvenient*

As students suffer the irritation of long lines and bureaucratic obstinacy at the "Bureau of Production" and the "Bureau of Grades," before they can even get in the line at the "Bureau of Candy," they develop an understanding of the willingness of Soviet citizens to engage in transactions na levo - "on the left." First-hand experience in high transaction costs and black markets is the focus of this 30-45 minute simulation.

Key Points:

1. Review: In market-based economies, property rights are clearly defined and prices are allowed to move freely in response to changing conditions of demand and supply.
    - This has two effects that help to determine standards of living for citizens:

        - Voluntary exchange (trade, on a small or large scale) is facilitated, and, in fact, encouraged; and
        - Wealth is created.
    - In market-based economies, search and other non-monetary costs of purchasing most goods and services are relatively small.
        - Non-monetary costs, like the time spent searching for a product or waiting in line, are called transaction costs.
        - Market-based economies offer incentives to sellers to reduce transaction costs.

2. In the USSR, government prevented prices from changing in response to changes in demand or supply.
    - A hallmark of the economy of the Soviet Union was governed and fixed prices in both the labor and other resource markets, and in retail markets for goods and services.
        - In some cases, prices of retail goods remained virtually unchanged for 10 to 15 years at a time.
        - The official price of many goods and services became almost meaningless for purposes of allocating and rationing goods.
    - Consequently:
        - non-monetary costs rose and were more important than monetary costs;
        - the opportunity cost of exchange rose; it was harder to trade and therefore
            - fewer exchanges took place; and
            - cooperation became less likely and less effective.

3. The full price of consumer goods in the USSR consisted of a low, nominal ruble price plus a high time price for searching and queuing for each good.
    - Knowing where and when goods would arrive became a critical problem to citizens.
    - The average citizen spent many hours outside of work each week queuing in the state stores and farmers' markets to provide for her family.
    - Waiting lists for items like cars, telephones, and apartments added greatly to the cost of money prices charged.
        - In legal markets, it was not uncommon to wait 15 to 20 years for an apartment, 5 years for a plumber, or 10 years to purchase an automobile.
        - In illegal, or "gray" markets, the price of a used car was greater than the legal market price for a new one because the price was bid up by those not willing to wait for a new one.
        - Many times two and three generations of family had to live together in very small apartments, and divorced couples might live together for years until one found a place to move to.
    - It was common in the Soviet Union to see nearly everyone on the street carrying mesh shopping bags.
        - When a delivery truck pulled up to the curb outside a

work place with sausage, cheese, or lemons, workers would grab their bags and stand in line to purchase for family and friends.
        - So great was the uncertainty of obtaining goods that when people saw things for sale, they would purchase for friends — who would return the favor when the opportunity arose.
        - Stories abound of people getting in line and then asking what the line was for.
    - In efficient economies, costs paid by consumers generally become benefits of producers; queuing transaction costs in the Soviet Union created benefits for no one.

4. Householders were also aware that transaction costs were not equally burdensome to all members of Soviet society.
    - From the perspective of the average consumer, it was clear that the perquisites of position or who you knew, not money, determined access to goods in short supply.
    - The nomenklatura, the communist party members who were approved to hold top management positions in the party and government, did not have to place their names on waiting lists for apartments, vacations, and desired goods.
        - Their wages consisted partly of special coupons to be used in special stores that were closed to the public and guarded by special police.
        - The elite shops carried fresh fruits and vegetables, roasts, chickens, and Armenian cognac and other goods that never appeared in state stores.

5. Awareness of extremely high transaction costs and of the fact that administrators had the ability to influence the allocation of quality consumer goods helps us to understand two phenomena of planned economies which, with less thought, we might blame on character deficiencies of Soviet citizens: the pervasiveness of both bribery and secondary, or black, markets.
    - When housing, automobiles, vacations, nursery schools, and quality consumer goods are allocated by administrators, it made sense for households to devote many resources to influencing the allocator and trying to gain access to benefits.
        - From the consumers' point of view, it was far more efficient and less costly to pay money to a regulator to gain access to goods and services than to pay the huge costs of time searching and standing in line.
        - From the point of view of analysis, it is more instructive to regard this as a question of opportunity cost, than as an issue of character.
    - When official regulations governing the allocator's behavior provided loopholes allowing considerable discretion, it made sense for administrators to use their control rights to improve their own well-being.
    - It should, therefore, not be surprising that gifts, favors, or outright bribery were often necessary to obtain access to goods, services, and resources.
        - Purchasing goods, services, and resources often

entailed two payments:
    - a low, nominal price paid into the official accounts, and
    - a higher payment to the allocator.
- The second result of the long wait for goods, services, and resources, was the development of very effective secondary, or black, markets where business was done "na levo" - on the left; that is, through privately arranged, illegal exchanges.
    - The reality was that in many spheres of Soviet life, there was no legal way that a household could meet its needs. For example:
        - There were no private repair shops for a damaged auto transmission or a burned out oven.
        - The wait for state repair services might be up to two years.
- Satisfying needs and wants "na levo" was often the only realistic alternative.
    - A friend of a friend could fix it and provide the necessary parts, obtained "somehow" from state channels.
    - To have a concrete floor poured was to go out to a zone of new construction and hitch-hike on a concrete truck and negotiate an informal delivery "na levo."
    - Drivers of private automobiles rarely went to gasoline stations to buy rationed fuel; instead they would drive to the edge of town where official vehicles and even military fuel trucks would sell fuel "na levo" by the side of the road.

6. By the 1980s, the informal, private economy had become an essential part of the Soviet system.
    - Practices "on the left" included everything from routine bribery, theft from the state sector, black marketeering, and underground manufacturing to large-scale organized crime.
    - Householders had little choice but to participate in this informal economy if they were to satisfy their most routine needs and wants.
    - Government policies increased the attractiveness of the informal alternative and reinforced the incentives to shun legally sanctioned institutions and practices.
        - In the late 1980s, the Gorbachev government expanded purchasing power by giving firms greater freedom to bid up wages, but productive output remained stagnant - citizens had more money but no more goods were available for them to purchase.
        - In a market-based system, this policy would have caused prices to rise, generally, but the Soviet government held prices constant.
    - The bigger the gap between government regulated prices and the true (market) value of products, the greater the benefit to the allocator of shifting goods out of the official economy and into the black market.
        - Gradually, goods disappeared from the shelves and official production began to fall as goods - and resources - moved into the black market.

- Wage levels were also officially regulated and were well below the value of workers to a firm.
  - In order to keep workers, managers found ways of paying workers in-kind, with various goods.
  - The custom of taking goods home from the factory soon turned to routine, outright theft.

Conclusion: On the eve of the collapse of the Soviet Union, it was apparent that the persistence of incredibly high transaction costs had taken its toll. The planned economy was characterized by increasingly poor performance, the accountability of every level of economic organization appeared to be compromised, and the resulting incentives had generated extraordinary levels of non-compliance and corruption.

Activity Lesson #5

"Na Levo" - When Acting Within the Law Is Inconvenient

Lesson Overview: After diligently producing doodles, students suffer the irritation of long lines and bureaucratic obstinacy at the "Bureau of Production" and the "Bureau of Records, " before they can even get into the line at the "Bureau of Candy." In the process, they develop an appreciation of the willingness of Soviet citizens to engage in transactions na levo — "on the left." The time spent in slowly creeping lines in front of unresponsive bureaucrats also clearly illustrates why transaction costs are also referred to as "dead-weight costs."

Economic Concept: transaction costs

Economics Content Standards:

Standard 3: *Students will understand that:* **Different methods can be used to allocate goods and services. People, acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.**

Benchmarks: *Students will know that:*

- There are different ways to distribute goods and services (by prices, command, majority rule, contests, force, first-come-first-served, sharing equally, lottery, personal characteristics, and others), and there are advantages and disadvantages to each.
- There are essential differences between a market economy, in which allocations result from individuals making decisions as buyers and sellers, and a command economy in which resources are allocated according to central authority.
- Comparing the benefits and costs of different allocation methods in order to choose the method that is most appropriate for some specific problem can result in more effective allocations and a more effective overall allocation system.

Standard 4: *Students will understand that:* **People respond predictably to positive and negative incentives.**

Benchmarks: *Students will know that:*

- Both positive and negative incentives affect people's choices and behavior.
- People's views of rewards and penalties differ because people have different values. Therefore, an incentive can influence different individuals in different ways.
- Responses to incentives are predictable because people usually pursue their self-interest.
- Changes in incentives cause people to change their behavior in predictable ways. Incentives can be monetary or non-monetary.
- Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.

Materials:

- scrap paper with 4" x 4" squares drawn on each sheet, or pieces of scrap paper cut to 4" x 4"
- **"Doodle"** transparency
- several bags of small pieces of candy — starbursts, chocolate kisses, bite size
- candy bars, etc.
- a few "better" prizes for bureaucrats
- tent signs: Bureau of Production, Bureau of Records, Bureau of Candy
- overhead projector
- squares of yellow (or any color) paper
- several markers
- index cards
- ruler
- a small box, no lid — (shoe box size)
- a large box with a lid (the size reams of paper come in)
- ruble cards (copy on colored paper, not yellow)

Time required: 1-1.5 class periods

Assessment:

In the United States, the Post Office and Department of Motor Vehicles are frequent subjects of complaints from American consumers. In fact, a frequent "joke" involves the clerk who takes a break just as you finally get to the head of the line.

1. List three ways in which the unresponsive Motor Vehicle clerk is similar to the Ministers in our classroom simulation.
2. Using your knowledge of incentives, explain why the motor vehicle clerk responded to you in the manner of the Minister of Production rather than in the manner of a counter clerk at your favorite store. (Use the word "incentives" in your answer.)
3. What transaction costs do you bear because of this system of

incentives?

4. What actions are you likely to take to avoid these transaction costs? *(Teachers may want to give students a hint here to help them think about substitutes for driving. Students will quickly identify that part of the frustration comes from knowing that there are few substitutes and that those are inconvenient. However, imagine a person living in a large city, who might choose not to drive at all and to use the bus or a taxi. Another possibility is that some people, not all, will choose to drive without a valid license or vehicle registration and run the risk of getting caught.)*
5. Are your avoidance tactics likely to change the behavior of the motor vehicle clerk? Why or why not? *(No. The clerk is not the entrepreneur, or the "residual claimant," and the motor vehicle department is not run for profit. In other words, the clerk has no incentive to change behavior.)*

Procedures:

1. Choose three students to play the roles of the bureaucrats:
    - the Minister of Production,
    - the Minister of Records, and
    - the Minister of Candy.

    Position the ministers in the front of the room, relatively close together. Place a sign on each minister's desk and hand each the supplies of his office:
    - Minister of Production:
        - a large quantity (not counted) of yellow squares (about 2"x2") and
        - a ruler
    - Minister of Records:
        - a number of colored markers
    - Minister of Candy:
        - a large pile, bag, or bucket of candy.

    Explain that the Ministers are among the more privileged individuals in your country and that they are trying to earn money to shop in the Elite Store. They will be paid 20 rubles for each round of the activity, starting now.

    (Pay each minister .)
    (The Elite Store is at the teacher's desk on which are prominently displayed a better class" of products: cans of pop, large candy bars, free tardy passes, free extra credit points, etc. "Prices" of the items should be posted. The prices should be somewhere in the area of 15-40 rubles, so that ministers can get the items but not too easily.)

2. Display the **doodle** on the overhead and explain that citizens in your country earn their income producing **Doodles**. *(Remove the transparency while you give the rest of the instructions.)*

3. Explain that your society works in the following way:

- Workers are paid 10 rubles when they are hired.
  (Distribute rubles to workers.)
- Workers produce **doodles** to the specifications of the Production Ministry and take their finished products there to be checked by the Minister. *(Distribute 4x4 production blanks.)*
- Workers then go to the Ministry of Records to receive credit for their work, which translates into yellow coupons that allow them to purchase goods and services.
- Workers with yellow coupons (and enough money) may purchase candy from the Ministry of Candy, for the price of 2 rubles / piece of candy.

4. Using the overhead, show students the work specifications that the Production Ministry has provided.
   - Point out the 6 components of the **doodle** on the overhead transparency. *(gray rectangle, white rectangle, circle, 3 lines)*
   - Hand out job descriptions to the Ministers and ask them to read while you answer any questions from the workers.
   - Allow students to begin working. *(Students do not need rulers. They may use the edges of books, etc. The point of the exercise is not for them to engage in painstaking work, but to produce doodles relatively quickly so that they get in line and begin to suffer the frustration of the ministry bottlenecks.)*
   - While the workers are busy, direct the ministers to their "offices" and answer any questions they may have.

5. Once students have their **doodles** finished, they must take them to the Bureau of Production. There, they must wait in line until the minister has time to see them and to correct their papers.
   - Papers that do not meet the Minister's standard will be returned to the worker and must be corrected.
   - Papers that do meet the Minister's standard will be collected. The Minister will give the "worker" a yellow square of paper (about the size of a post-it note).

6. Workers then take their yellow squares to the Ministry of Records. The Minister (painstakingly) records on an index card the following information about the worker:
   - full name
   - parents' full names
   - complete address (both addresses if students split residence between divorced parents)
   - date
   - time of day
   - number of yellow squares presented at this time
   - Note that only the Minister himself may record this information.
   - When he has finished, he will draw a star on the worker's yellow square with a colored marker.

7. Workers who have yellow squares with stars may go to the Bureau of Candy to buy treats from the minister. One yellow square and 2 rubles must be exchanged for each piece of candy.

Set Up Directions for the teacher:

A. *Set the three ministers' offices in the front of the room, facing away from the overhead (so that it is difficult and awkward for the Minister of Production to see the prototype he is using to judge workers' products. You want to slow down his checking of the work so that a long line forms in front of him.*
B. *Keep the three ministers' offices close to one another so that the ministers may interrupt their work to talk to each other and so that the lines of waiting citizens can interact with each other.*
C. *Don't take measures to prevent "cheating the system;" in fact, you can make it easier by:*
    - *leaving markers and yellow paper around the room - seemingly accidentally*
    - *arranging student desks so that the lines of workers snake through them*
    - *emphasizing to the ministers that they get paid if they come to work and try to do their jobs - you will not keep a count of materials or of work products collected, etc.*
    - *call a minister from his office from time to time to interrupt his work;*
    - *announce a break for ministers, and if they start to pick up their supplies, instruct them to leave their materials in their offices;*
    - *to "speed up" things in response to citizen complaints, have the Minister of Production throw the completed "products" on the floor by his office, and tell him that you will collect them from time to time. Each time you collect the finished products, dump them into a large box that you place somewhere in the back of the room.*
    - *place the Minister of Candy's stash of candy in another part of the room, so that he must get out of his chair and walk across the room to get each order.*

8. Plan the timing of the activity so that the bell rings long before most students can get through the lines. Agree to continue the activity or to play another round on the next class day.
(Alternately, allow the first production round to last only about 10 minutes. Stop the activity well before everyone has had a chance to get through the lines, and direct all students back to their seats.)
    - Let the ministers buy items from the Elite Store.
    - Ask if students understand the game and whether they have any comments or questions. Act surprised at their complaints.
    - Admonish the students! Obviously this is their problem because you can clearly see that the ministers are doing their job. Clearly, the students have not made an efficient line, or are not giving their information to the minister in an organized way.
    - *(Note: Consumer complaints in the Soviet Union were routinely treated in this manner. The consumer was blamed for using the product inappropriately or having no scientific basis for his complaint.)*

9. Pay the ministers again and play a second round. Allow this round to go on a little longer and observe what workers do to

get around the system. Anticipate that they might:

- make their own yellow squares by taking paper and markers left around the room
- take the discarded work products and try to reuse them
- find ways to "cut" the lines
- bribe the bureaucrats, either for extra yellow squares or to buy things for them in the Elite Store

10. End the activity and debrief.

Debriefing Questions:

- What transaction costs (non-monetary costs) did you bear in order to obtain goods and services in this economy? *(standing in line, frustration, etc.)*
- Transaction costs are sometimes referred to as "dead-weight" costs; that is the cost to the consumer of waiting in line was of no benefit to the producer. No one was made better off by the consumer bearing this cost. Can you think of other "dead-weight" transaction costs that people in the Soviet Union paid?

  (Search costs are dead-weight costs. The time and energy it takes a consumer to find products that cost him and no benefit to the seller. In fact, in market economies, sellers try to reduce consumers' search costs by advertising.)
- Was the time spent on the **doodles** a transaction cost? *(No - this was production, and the opportunity cost of the time you spent producing a doodle resulted in a benefit for you - the income you earned and the candy you eventually bought.)*
- Comment on your perception of the transaction costs and the price (money cost).
- In your opinion, was one more burdensome than the other? If so, which one and why?
- Was there anything you could do to reduce the money cost (price)?

  (No - there's no competitor, only the one seller - the bureau of Candy)
- Was there anything you could do to reduce the transaction costs? Explain.

  (Did students cheat, or enter into "black market" transactions?)

  - Did you? Why or why not?
- In comparison to your experience shopping in the U.S., did you find the Ministry of Candy more or less responsive to customers' needs, wants, and desires?
  - Why do you think that is the case?
- What incentives face the Minister of Candy? Use your knowledge of the incentives to explain why he responded (or didn't respond) to you as he did?

  (The minister faces no profit or loss that depends on how he treats the consumers. His rewards come from the planners and he has no reason to care about the consumers.)
- How did you feel about the economic planner (teacher) blaming the consumers for the inefficiencies of the ministers?

How did the planner's response affect the ministers' behavior? Were the incentives changed in such a way as to encourage more responsiveness to the consumers?

(No, if anything, the ministers were reinforced in their lack of responsiveness to the citizens.)

- What incentives face the owner of a small candy store in our economy?

(The candy store owner is responsible for the profit or loss of his business. If he doesn't respond to consumers, he will not make a profit.)

- How do those incentives influence his treatment of you as a customer?

(Teacher note: Emphasize this question as it builds the transfer skills necessary for students to apply their experience in the simulation to the assessment question. Help them to consciously make comparisons, to focus on "What's the same?" and "What's different?")

- What are the benefits of engaging in legal market transactions in our economy?
- What are the benefits of engaging in illegal (black market, bribery, theft, etc.) transactions in our economy? (In other words, what benefits do you give up if you choose not to participate in illegal activities?)
- How does the presence of high transaction costs, as in our classroom simulation, change the opportunity cost of engaging in illegal markets?
- Offer an explanation, using the concepts of cost and incentives that explains the willingness of many, if not most, Soviet citizens to participate in illegal transactions like black markets and/or bribery, or even theft.

(Note: Offering an explanation is not the same as offering a justification or excusing such behavior!)

Student Handouts

Roll Cards for Bureaucrats

Minister of Production

You are head of all production that goes on in your country. Workers bring things they have produced to you for inspection. On the overhead behind you is a prototype or model of the product currently being made. It is your job to check the products workers bring to you to make sure that they conform to the prototype.

The government planners will ask you to check each of the following:

- **Is it the correct size? (measurements must be within .5" of the model)**
- **Are straight lines straight and curved lines appropriately curved?**
- **Are lines the proper width?**

- **Are shaded areas uniform?**

  Are all elements of the design included? (Please count to make sure all 6 are there.)

It is strongly suggested that you keep this list in front of you, and go down through each question as you check each product.

- **Take your time and measure. If measurements are more than .5" larger or smaller than the model, instruct the worker to fix the doodle and then get back in line.**

You will be paid by the economic planning commission if you do your work carefully and pay attention to detail. There is no required number of products; the important thing is that you check each one carefully. Please take your time.

Speed is not a requirement of your job. You may take breaks as you wish, to consult with other ministers (who are your friends) or just to rest. You may consult the economic planners (represented by your teacher) if you have questions or are uncertain.

If you accept a finished product, collect it from the worker and give him/her a yellow square. (Don't bother to count the yellow squares; that's not your job - checking production is. If you run out of yellow squares, just ask the planner for more.)

In addition to your pay of 20 rubles, you will be given elite status, so that you may shop in the Elite Store. Please feel free to visit the store on your breaks to look at the merchandise.

Minister of Records

You are, essentially, the pay master for your country. Workers bring yellow squares to you as proof that they have produced needed goods and services. It is your job to record their efforts and to provide the verification that turns their yellow squares into income they may spend at the government stores.

\When a worker comes to you with a yellow square, the government planners require you to record the following about the worker in question:

- **full name**
- **parents' full names**
- **complete address** (both addresses if students split residence between divorced parents)
- **date**
- **time of day**
- **number of yellow squares presented at this time**

You may write one record on each side of a single index card.

It is strongly suggested that you keep this list in front of you, so that you don't miss any information. Please keep the cards alphabetized at all times, as the economic planners may come by to see them.

You will be paid by the economic planning commission if you do your work carefully and pay attention to detail. There is no requirement that you complete records in any particular length of time; the important thing is that you record the information carefully and keep your records well-organized.

Speed is not a requirement of your job. You may take breaks as you wish, to consult with other ministers (who are your friends) or just to rest. You may consult the economic planners (represented by your teacher) if you have questions or are uncertain.

When you have finished a worker's record, take his yellow square and draw a 5-pointed star in the center of the square. (You should find plenty of markers in your office. Should you run out, just ask the economic planner for more.)

In addition to your pay of 20 rubles, you will be given elite status, so that you may shop in the Elite Store. Please feel free to visit the store on your breaks to look at the merchandise.

Minister of Candy

You are in charge of the distributing the goods and services citizens want. Workers bring their income to you if they choose to buy candy. Candy sells for 1 yellow-square-with-a-star per piece.

When a worker comes to you with his income, it is your job to sell him the goods he wants. Please take the following steps:

- **Look carefully to make sure the yellow square has a star.** (The shape and color of the star are not your concern.)
- **Collect the yellow square and put it carefully in your money box.**
- **Ask the consumer why he wants the candy.**(Please note the names of consumers who give an answer other than "to eat," or "hunger," for later investigation.)
- **Give a piece of candy to the worker.**
- **Shake hands with the consumer and congratulate him/her on his fine purchase.**

It is strongly suggested that you do not keep the candy on your office desk — a closed box would be a better choice. The ministers do not want people to become greedy as a result of seeing huge piles of products.

You will be paid by the economic planning commission if you do your work carefully and pay attention to detail. There is no requirement that you sell any particular amount of candy; the important thing is that you carefully

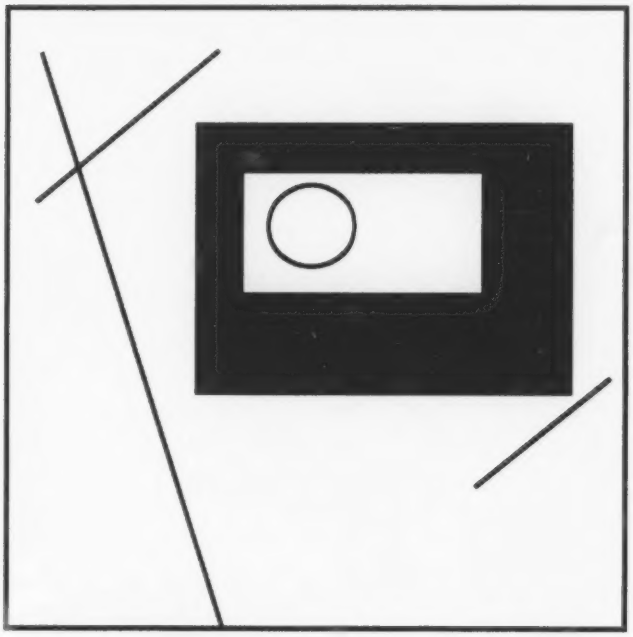
inspect the yellow squares before you collect them, and that you store the merchandise carefully.

Speed is not a requirement of your job. You may take breaks as you wish, to consult with other ministers (who are your friends) or just to rest. You may consult the economic planners (represented by your teacher) if you have questions or are uncertain.

Do not worry about the supply of candy. Should you run out, just ask the economic planner for more.)

In addition to your pay of 20 rubles, you will be given elite status, so that you may shop in the Elite Store. Please feel free to visit the store on your breaks to look at the merchandise.

Doodle Prototype



Note that there are 6 separate elements of the doodle.

Entire doodle approximately 4" x 4"

Gray rectangle is approximately 2" x 2.5"

White rectangle is approximately 1" x 1.5"

20 Ruble card

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20 Ruble card

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Lesson Six
Applying the Lessons of the Soviet Union

Assessment: A Brief History of the Post Office (As Told By Grandpa McCoy)

"You kids these days have it so easy. Why, back when I was a young whippersnapper like you, we had to walk 5 miles to school - and it was uphill both ways, too. And when I started to work, I made 10 cents a day, digging worms and selling them to fishermen, to support my mother and the little ones. But I tell you, worst of all, was having to go to the Post Office. In those days, stamps were 3 cents - which is about the same as 3 gazillion dollars now - and a trip to the Post Office was a nightmare. Friend of mine waited in line so long, he grew a beard. And, I think it was a law then that when you got to the front of the line, the clerk would go to the back to get something and never return! And you didn't ever dare complain to the Post Office - No sireeee! Open your mouth and next thing you know, the bills you paid show up late or get lost, and your Sears catalog order comes smashed to smithereens.

"No wonder kids today are such softies! I was down at your Post Office the other day and they were having an open house! Imagine that - sodas and balloons and prizes! And when the counter lines got long, they called another clerk from the back just to help out. Shoot, you don't even have to go down there half the time. I saw those commercials about how the Post Office is cheaper and just as fast as those guys in the brown shorts, and darned if that postal lady didn't come right to the door with a priority mail package and my new winter long johns!"

What happened to the Post Office?

Other facts you may want to know:

- In Grandpa's day, the Post Office was a government corporation, its yearly funding part of the federal budget.
- Today, the Post Office is a quasi-public corporation. Within guidelines provided by the federal government, the Post Office must cover its operating costs by charging for the services it provides.
- Federal law says that only the Post Office can deliver first class mail. Grandpa thinks that's ok since people send money , contracts, and other valuable things through the mail; it just made him mad that the Post Office never acted like he was an important customer. Now that they do, he's happy, because he doesn't trust e-mail or faxes. Says it doesn't seem natural to just launch messages into the air like that!

Fill in the chart below to analyze the changes in the Post Office.

	the old Post Office	today's Post Office
opportunity cost		
prices		
incentives		
property rights		
transaction costs		

see student handout and teacher guide

Procedures

The concepts and principles we have used to analyze some of the economic problems of the Soviet Union are applicable to situations other than those found in the USSR. In much the same way that a mechanic may use his tools to fix any number of makes and models of cars, we can use economic reasoning to understand conditions in ancient tribal economies, in modern Asia, or even in the United States. The mechanic's knowledge of the fundamentals of the internal combustion engine gives him a framework and suggests a procedure for finding out why a customer's car doesn't run right; knowledge of the fundamentals of economics allows us to discover what's wrong when parts of our economy seem to be "broken" or don't work quite the way we want them to.

1. Suppose that your car isn't running smoothly; it's difficult to start and misfires frequently. When you take the car to your mechanic - or when you put on your own mechanic's overalls - the immediate problem is to use knowledge of engines to answer the question: **What things can make a car misfire?**
    - Compiling a mental list, the mechanic (or you) begin(s) to check through your car's engine, eliminating each possibility in turn, until the problem reveals itself. Each item on the list becomes, in effect, one of the mechanic's mental tools:
        - spark plugs: Are they damaged or improperly connected?
        - compression: What are the results of a compression check?
        - carburetor: Is the mixture of air and gas correct?
        - fuel: Could there be water in the gas tank?

2. Now it's your turn. Use the mechanic analogy to identify the economic tool kit or checklist you've acquired by completing the lessons in ***The Economic Demise of the Soviet Union***. You should have 5 tools. List the 5 tools below and next to each entry, list at least two diagnostic questions you might ask in trying to discover what's wrong with the "engine," - er, that is, the economy. *(See handout: Problems in the Economy - Diagnostic Chart)*

3. Describing an economic problem in the US economy:
    - Once you've organized your economic tool kit, you're ready to tackle an economic problem. Let's start with something as close to home as the local office of the Department of Motor Vehicles (DMV).

- Ask the class to help write a script about a visit to the local DMV. Begin the story something like this:
  - ***"When I got my car registration renewal form in the mail a week ago, I noticed that there was a mistake, so yesterday, I left school during my lunch hour and went to the DMV office near school. Knowing I might have to stand in line, I took my sandwich with me, confident that I'd get the business done in plenty of time to get back to school for my next class. Well, silly me . . . "***
  - *Note: Tailor the story to the situation in your state. Some states now contract with private firms for car registration - with the result that long lines have been eliminated.. If that is the case in your state, change the story to read, "I noticed last week that I'd forgotten to renew my driver's license on my birthday and it had expired, so yesterday . . . "*
- As students fill in the story line, embellishing it with tales of their own experiences or those of their friends and family, make a list of "symptoms" on the board.
  - *Symptoms might include long, slowly moving lines, clerks who take breaks when there are still lots of people in line; clerks who can't answer customers' questions, fees or charges that seem arbitrary or hard to understand, etc.*
- Point out that the list of "symptoms" provides clues and that the economic tool kit can help you identify the problem that causes the DMV portion of our economy to function poorly.

4. Small group practice: Direct students to use the tool kit chart, individually, to analyze the DMV phenomenon. After 5 to 10 minutes, combine students into pairs to share and revise their analyses. When pairs are finished, hold a large group discussion.

5. Discussion Questions:
   - **What is the most obvious symptom of the DMV problem and which of the 5 tools in your kit seems best suited to address this problem?** *(The lines are the most obvious symptom of the problem, and "transaction cost" is the appropriate tool of analysis. Note: If students suggest that incentives are the problem, suggest that they are making an assumption or hypothesis that they can verify only from the front of the line, not from the back.)*
   - **Which of the transaction cost questions are applicable to diagnosing the situation and how did you answer them?**
     - What is the transaction cost? *(the time spent in line)*
     - Why does it exist? *(because there is too little service being provided for the number of people who want it)*
     - Who bears the transaction cost? *(the people waiting in line)*
     - Does everyone in line bear the same cost? *(No. An unemployed person or a retired person bears a lower opportunity cost than a lawyer who is late for a trial or a someone who will have to punch in late on the time clock at work because she was standing in line.)*
     - Does the clerk benefit from your waiting in line? *(No, he can't raise the license fee and his income is not determined by the license fee.)*
     - Are there people who can escape the transaction costs? If so, who? How? If not, why is no one able to do so? *(There*

don't appear to be any legitimate ways to avoid the lines. However, the people in line sure wish that they "knew someone," or that the DMV clerk was a friend of whom they could ask "a favor," etc.)

- **Ok, now that we understand the line, in your experience, what happens when you get to the front of the line?** Stories included clerks going on break just as you get to the front, lots of people chatting on the phone or in groups at desks while only one or two clerks work the counter, clerks who are exceedingly slow and/or who don't know the answers to your questions - and don't seem to care.
  - What is your most useful tool for explaining "Why would the clerk be so unresponsive to the line of people waiting?" *(incentives)*
  - Answer the questions from your tool kit about incentives:
  - What behavior (of buyers and/or sellers) do you find strange or undesirable? In this case what is it about the clerks' behavior that bothers you? *(The fact that it's their job to wait on people but they don't seem very eager to do it, or that government employees who are supposed to serve the public don't show much interest in being of service, or that the behavior of the clerks is so different from that of the clerks in the shopping mall right next door.)*
  - Who benefits from this behavior? *(the clerks do; they don't have to work as hard)*
  - Who bears the cost of this behavior? *(the people in line)*
  - Are clerks rewarded for their disinterested and inefficient behavior? how? *(hard to tell - unless the reward is in being less burdened by work)*
  - Are people punished for this behavior? how? *(they don't appear to be)*
- **Showing the clerk your completed form, you ask why the fee is so much higher than it was last year.** The clerk shrugs and says, "Cuz that's the way it is."
  - Is the fee a price? *(No - it is not the result of the interaction of supply and demand.)*
  - Is there a market for motor vehicle registration or drivers' licenses? *(No. Law allows no market for the services the DMV provides - auto registration and driver licensing.)*
  - How are DMV fees determined? (*according to a DMV formula based on state legislation. They are <u>not</u> a reflection of the interaction of supply and demand.)*
  - How are fees and prices different in terms of the information they provide? *Fees provide no information about buyers and sellers, while prices tell us a great deal about the interaction of buyers and sellers in the market. In this case, the "seller" - the DMV - probably knows that everyone would like to pay less, but does not know if people would be willing to pay more, which people might be willing to pay more, when people might be willing to pay more, etc. The buyers don't know if the price is high or low, whether or not others value the service highly, whether the resources used in the service are highly valued for other uses, etc.)*
  - What is the response of buyers to the fee? of sellers? *(There is no discernible response. Buyers don't have the ability to refuse the product or to substitute something else. Sellers don't have the ability to change the price in response to their*

perception of people's demand - the length of the line - or to alternative uses of the resources.)

- **Asking to see the person in charge probably doesn't get you much additional satisfaction:**
  - Who is "in charge?" *(another DMV employee)*
  - Who has the property rights? *(We can't identify an individual owner of the property rights. We purchase our motor vehicle registration from the government rather than from an entrepreneur or residual claimant. In a sense, we "all," own the DMV, but as we learned in the Soviet Union's example, that's the same as "nobody" owning it.)*
- **So why is the DMV organized and run this way? (What choice was made and what is the opportunity cost?)**
  - What were the available alternatives? *(This could be an interesting discussion because there are seemingly lots of alternatives: state registration of motor vehicles, no registration of motor vehicles, registration run by a for-profit contractor, voluntary registration for a fee, etc.)*
  - What choice was made? *(mandated, state-run vehicle registration)*
  - What was the next-best alternative, the opportunity cost? *(accept a variety of answers)*
  - Who made the choice? *(state legislature)*
  - Who reaps the benefits? *(depends on who benefits from the programs and projects financed by the resulting tax revenue)*
  - Who bears the costs? *(motor vehicle owners)*
  - Are the same people who receive the benefits bearing the costs? *(depends on how the revenue is spent - if, for example, it is used to finance road construction or repair, drivers of motor vehicles would benefit. If the revenue is used for other purposes, the connection between bearing the costs and reaping the benefits may be broken.)*
  - (optional) Extension question: **Some states have chosen to provide motor vehicle registration through a private contractor. What are the benefits and costs of this decision?** *(Student answers will vary. However, note that in the states that have adopted private contracting, the contractor is a residual claimant and has an incentive to provide the service quickly and at low cost. Not surprisingly, lines have been greatly reduced or eliminated.)*

6. Usually, we don't want the mechanic to just diagnose what's wrong with the car, we want him/her to fix it. That may not always be the case with the economy - and we may not have the ability to make the indicated repairs, but presume that we do.

   Assign each group of students one of the simulations below. The group is to identify the tool of economic reasoning that is most applicable to their situation (and be prepared to justify their choice). After filling in the appropriate row on the diagnostic chart, they are to propose a change in the identified parameter, and create a before-and-after skit predicting the effect of that change.

   - The rock group, Throwing Tomatoes is scheduled to perform at the local stadium during the first week of summer break and tickets go on sale May 1st. The line begins to form early on April 30th and area

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high schools report record absentee rates. In addition, an impromptu local group, calling itself "Middle-aged Tomato Lovers" is protesting what they call "unfair ticketing practices, that deny upstanding citizens in the 'forty-something' age range their right to Throw Tomatoes just like the kids!" (Is there a problem? Are the ticketing practices unfair?)

- A small western city that depends heavily on tourists attracted by the spectacular scenery and nearby recreation opportunities suffers severe winter smog problems caused by temperature inversions in the valley where the town is situated. In an effort to solve the problem and maintain the high level of tourism which employs so many of the city's residents, the mayor and city council began a program of "Voluntary No-Drive Days," based on vehicle license plate numbers. Cars with plates ending in even numbers were to be off the road on days with even dates and cars with plates ending in odd numbers were to be off the road on days with odd dates. A study of the first year of the program revealed that compliance with the voluntary no-drive restrictions was less than 5%. In an interesting side light, the DMV reported an increase in the number of people trading in their license plates in an effort to make sure that one car had even numbered plates and the other odd. (What is the basis of the problem? Propose a solution that doesn't involve legally mandating no-drive days.)
- As the personal computer transformed from a novelty to a necessity, Apple made what, in hindsight, would be a critical decision to not allow cloning. Even today, while Gateway, Dell, Compaq, Toshiba and a plethora of others have evolved from IBM's original operating system, Apple Computers are still Apple Computers. And, while Apple users consistently report how much they "love their Macs," many have, reluctantly, switched to PCs, for which both office and entertainment software is much more varied and available. (Why is a company struggling to stay in business if consumers love the product?)
- A teenagers works two summer jobs, one as morning counter help at the local fast food franchise owned by his parents and the other waiting tables in a neighborhood restaurant. When his parents dine at the restaurant before going to a movie, they think it wise not to sit at one of his tables if they want to be on time. However, they are amazed to see that their son, who drags his feet all morning long, is indifferent to customers' requests, and whose manner his father describes as "borderline surly," is charming, efficient, and industrious. When the manager stops by to tell them that their son is one of his best employees and the top tip earner, they are bowled over. After talking it over, they decide that there's just no other explanation; clearly he is just <u>not</u> a morning person, but they can hardly fire their own son! (Do the parents have a clue?)
- A large city received voter authorization to construct a new airport to replace the existing site which has been surrounded by housing developments. In anticipation of future growth, the airport was built in a remote location 10 miles outside the city, more than an hour from the western suburbs, doubling or tripling most residents' drive time. Recognizing the increased distance and the potential for difficult driving during storms, the airport planners determined that people would be unlikely to take their cars to the airport, especially if there was an inexpensive and efficient alternative. Consequently,

they paid special attention to provisions for public transport to the new location, designated several parking locations in the city, and added city bus routes between the parking lots and the terminal. In addition, they authorized the licensing of additional shuttle companies. Having announced these accommodations, they proceeded with the construction, saving money by including only 2 parking garages. The parking rate was $5/day, a 40% increase over rates at the old airport. From the day the airport opened, despite the efficient and effective operation of the shuttles, the parking garages were packed. Travelers were furious to find that after the long drive to the airport, they could not park and had to make the long trip back into town. (What important information does everyone seem to be ignoring?)

- *Teacher Note: Tomatoes-= transaction costs, Smog-= property rights, Computers - opportunity cost, Teen Worker - incentives, Airport - markets and prices*

7. Distribute skit charts and review the directions. (Students are to fill in the chart as they watch other groups' skits.) Stage the skits for the class.

Problems in the Economy - Diagnostic Chart

Economic "tool"	Diagnostic Questions
TD>	

teacher's guide to diagnostic chart

Economic "tool"	Diagnostic Questions
opportunity cost	• *What were the available alternatives?* • *What choice was made?* • *What was the next-best alternative?* • *Who made the choice?* • *Who reaps the benefits?* • *Who bears the costs?* ◦ *Are the same people who receive the benefits bearing the costs?* • *Was the assessment of costs and benefits made on the basis of faulty or insufficient information?* • *Was there a mistake made in identifying costs and benefits?*
market prices	• *Are there prices?* • *Are the prices market prices? (How were the prices determined?)* • *What kinds of information are the prices giving - to buyers? to sellers and/or producers?* • *What is the buyer's response to the price? the seller's response?* • *Why are they responding in this way?*

incentives	• *What behavior (of buyers and/or sellers) do you find strange or undesirable?* • *Who benefits from this behavior?* • *Who bears the cost of this behavior?* • *Are people rewarded for this behavior? how?* • *Are people punished for this behavior? how?* • *Are there other people in analogous situations who behave differently - that is, in a desirable manner?* • *Are the incentives in the two situations the same or different?* • *Can you think of a way to change the incentives to produce the behavior you prefer?*
property rights	• *Who has the property rights?* • *What is the nature of the property rights - are they limited in some way?* • *Are the property rights enforced? if not, why not?* • *Would changing the property rights change the behavior of the people (buyers, sellers, users) involved? If so, how? If not, why not?*
transaction costs	• *What is the purpose of the transaction costs?* • *Who bears the transaction costs?* • *Who (if anyone) benefits from the transaction costs?* • *Are there people who can exclude themselves from the transaction costs? If so, who? How? If not, why is no one able to do so?* • *How could the transaction costs be eliminated?* • *What do you think would happen if the transaction costs were eliminated? Why?*

student handout - group 1

The Case of the Contested Concert Tickets

Directions:

1. Discussion groups have been given different scenarios, one dealing with each of the 5 economic principles on your diagnostic chart. Read the scenario below. Decide which of the tools of economic reasoning is most applicable to this situation. Refer to the questions on your diagnostic chart to identify the problem and to fill in the appropriate row on the chart.
2. **Using the economic concept you choose as your primary diagnostic**

tool, propose a change and predict the outcome. Be prepared to explain and defend your prediction, in terms of economic reasoning.

3. Create a short before-and-after skit to show the class your analysis and prediction.
4. Fill in the other rows of the chart by watching the skits of other groups.

The rock group, Throwing Tomatoes, is scheduled to perform at the local stadium during the first week of summer break and tickets go on sale May 1st. The line begins to form early on April 30th and area high schools report record absentee rates. In addition, an impromptu local group, calling itself "Middle-aged Tomato Lovers" is protesting what they call "unfair ticketing practices, that deny upstanding citizens in the 'forty-something' age range their right to Throw Tomatoes just like the kids!" (Is there a problem? Are ticketing practices unfair?)

Concept	**Diagnosis of the Problem (use the diagnostic questions)**	**Proposed Change**	**Predicted Outcome**
opportunity cost			
prices and markets			
incentives			
property rights			
transaction costs			

student handout - group 2

The DWS (Driving With Smog)) Case

Directions:

1. Discussion groups have been given different scenarios, one dealing with each of the 5 economic principles on your diagnostic chart. Read the scenario below. Decide which of the tools of economic reasoning is most applicable to this situation. Refer to the questions on your diagnostic chart to identify the problem and to fill in the appropriate row on the chart.
2. **Using the economic concept you choose as your primary diagnostic tool,** propose a change and predict the outcome. Be prepared to explain and defend your prediction, in terms of economic reasoning.
3. Create a short before-and-after skit to show the class your analysis and prediction.
4. Fill in the other rows of the chart by watching the skits of other groups.

A small western city that depends heavily on tourists attracted by the spectacular scenery and nearby recreation opportunities suffers severe winter smog problems caused by temperature inversions in the valley where the town is situated. In an effort to solve the problem and maintain the high level of tourism which employs so many of the city's residents, the mayor and city council began a program of "Voluntary No-Drive Days," based on vehicle license plate numbers. Cars with plates ending in even numbers were to be off the road on days with even dates and cars with plates ending in odd numbers were to be off the road on days with odd dates. A study of the first year of the program revealed that compliance with the voluntary no-drive restrictions was less than 5%. In an interesting side light, the DMV reported an increase in the number of people trading in their license plates in an effort to make sure that one car had even numbered plates and the other odd. (What is the basis of the problem? Propose a solution that doesn't involve legally mandating no-drive days.)

Concept	**Diagnosis of the Problem – (use the diagnostic questions)**	**Proposed Change**	**Predicted Outcome**
opportunity cost			
prices and markets			
incentives			
property rights			
transaction costs			

student handout - group 3

An Apple Today . . .

Directions:

1. Discussion groups have been given different scenarios, one dealing with each of the 5 economic principles on your diagnostic chart. Read the scenario below. Decide which of the tools of economic reasoning is most applicable to this situation. Refer to the questions on your diagnostic chart to identify the problem and to fill in the appropriate row on the chart.

2. **Using the economic concept you choose as your primary diagnostic tool,** propose a change and predict the outcome. Be prepared to explain and defend your prediction, in terms of economic reasoning.
3. Create a short before-and-after skit to show the class your analysis and prediction.
4. Fill in the other rows of the chart by watching the skits of other groups.

As the personal computer transformed from a novelty to a necessity, Apple made what, in hindsight, would be a critical decision to not allow cloning. Even today, while Gateway, Dell, Compaq, Toshiba and a plethora of others have evolved from IBM's original operating system, Apple Computers are still Apple Computers. And, while Apple users consistently report how much they "love their Macs," many have, reluctantly, switched to PCs, for which both office and entertainment software is much more varied and available. (Why is a company struggling to stay in business when consumers love the product?)

Concept	**Diagnosis of the Problem (use the diagnostic questions)**	**Proposed Change**	**Predicted Outcome**
opportunity cost			
prices and markets			
incentives			
property rights			
transaction costs			

student handout - group 4

Help Wanted: "Morning People" Only

Directions:

1. Discussion groups have been given different scenarios, one dealing with each of the 5 economic principles on your diagnostic chart. Read the scenario below. Decide which of the tools of economic reasoning is most applicable to this situation. Refer to the questions on your diagnostic chart to identify the problem and to fill in the appropriate row on the chart.
2. **Using the economic concept you choose as your primary diagnostic tool,** propose a change and predict the outcome. Be prepared to explain and defend your prediction, in terms of economic reasoning.
3. Create a short before-and-after skit to show the class your analysis and prediction.
4. Fill in the other rows of the chart by watching the skits of other groups.

A teenagers works two summer jobs, one as morning counter help at the local fast food franchise owned by his parents and the other waiting tables in a neighborhood restaurant. When his parents dine at the restaurant before going to a movie, they think it wise not to sit at one of his tables if they want to be on time. However, they are amazed to see that their son, who drags his feet all morning long, is indifferent to customers' requests, and whose manner his father describes as "borderline surly," is charming, efficient, and industrious. When the manager stops by to tell them that their son is one of his best employees and the top tip earner, they are bowled over. After talking it over, they decide that there's just no other explanation; clearly he is just **not** a morning person, but they can hardly fire their own son! (Do the parents have a clue?)

Concept	**Diagnosis of the Problem (use the diagnostic questions)**	**Proposed Change**	**Predicted Outcome**
opportunity cost			
prices and markets			
incentives			
property rights			
transaction costs			

student handout - group 5

"I Don't Go Anywhere Without My Car!"

Directions:

1. Discussion groups have been given different scenarios, one dealing with each of the 5 economic principles on your diagnostic chart. Read the scenario below. Decide which of the tools of economic reasoning is most applicable to this situation. Refer to the questions on your diagnostic chart to identify the problem and to fill in the appropriate row on the chart.

2. **Using the economic concept you choose as your primary diagnostic tool,** propose a change and predict the outcome. Be prepared to explain and defend your prediction, in terms of economic reasoning.
3. Create a short before-and-after skit to show the class your analysis and prediction.
4. Fill in the other rows of the chart by watching the skits of other groups.

A large city received voter authorization to construct a new airport to replace the existing site which has been surrounded by housing developments. In anticipation of future growth, the airport was built in a remote location 10 miles outside the city, more than an hour from the western suburbs, doubling or tripling most residents' drive time. Recognizing the increased distance and the potential for difficult driving during storms, the airport planners determined that people would be unlikely to take their cars to the airport, especially if there was an inexpensive and efficient alternative. Consequently, they paid special attention to provisions for public transport to the new location, designated several parking locations in the city, and added city bus routes between the parking lots and the terminal. In addition, they authorized the licensing of additional shuttle companies. Having announced these accommodations, they proceeded with the construction, saving money by including only 2 parking garages. The parking rate was $5/day, a 40% increase over rates at the old airport. From the day the airport opened, despite the efficient and effective operation of the shuttles, the parking garages were packed. Travelers were furious to find that after the long drive to the airport, they could not park and had to make long trip back into town. (What important information does everyone seem to be ignoring?)

Concept	**Diagnosis of the Problem (use the diagnostic questions)**	**Proposed Change**	**Predicted Outcome**
opportunity cost			
prices and markets			
incentives			
property			

property rights			
transaction costs			

teacher guide to small group problems

Concept	Diagnosis of the Problem (use the diagnostic questions)
opportunity cost	• *Apple's alternatives were to allow cloning of their operating system or to not allow it. By not allowing it, they reaped the benefits of being the only supplier of home computers using their very user-friendly system. They gave up the benefits of allowing others to clone their system.* • *It turned out that those benefits were substantial, in terms of product innovation and price reductions that greatly increased the market share of PCs. With the benefit of hindsight, it is easy to say that Apple made a mistake in underestimating the opportunity cost of being the exclusive supplier - and it doesn't do them much good in terms of profit to claim that PCs are becoming more and more like Macs.* • *Students may offer a variety of predictions about what would have happened if Apple had chosen the other alternative. Make sure that they address the opportunity cost - the benefits of remaining an exclusive that Apple would have given up.*
prices and markets	• *The airport planners are ignoring the information provided by price. Even though they raised the parking price compared to the old airport, the fact that the lot is always full - too full - tells them that they haven't provided enough parking at that price, or that they need to raise the price, or that the price of shuttles isn't low enough to change people's demand, etc.* • *This is typical of decisions in which prices are set by government planners who have insufficient information. At the very least, the planners should have created contingency plans that allowed them to change both the price and the supply of parking in the months after the airport opened, and/or they should have offered a variety of parking options at different prices to find out how consumers would use the new airport.*

	• *Possible solutions include turning over both parking and shuttle service to private companies that must pay a fee to the government and then is free to set prices.*
incentives	• *The parents are explaining their son's behavior in terms of his personality rather than in terms of incentives. Whether he's a morning person or not is irrelevant. The difference is that as counter help, they pay him the same hourly rate no matter how hard he works. Since he knows they won't fire him, and since he doesn't see a direct connection between the success of the franchise and his income, he doesn't work very hard. In the restaurant, however, he gets tips and he quickly figured out that his attitude and efficiency have a big impact on his income.* • *The parents might consider a way to change the incentives for their son. They might offer him a bonus structure based on the numbers of meals sold at the counter during his shift, or on the numbers of compliments they hear about him from customers. Or, they might make his hourly pay fluctuate with the success of the business in the previous week.*
property rights	• *The problem here is that no one owns the air - and therefore, no one gets a direct benefit from making sure it stays clean. This is a classic case in property rights known as "the tragedy of the commons," in which resources owned in common are overused.* • *Drivers see no benefit from not driving themselves because everyone else is. In addition, the individual driver is both powerless to stop others from driving and aware that his own sacrifice of the convenience of driving makes little difference in the overall smog problem.* • *Proposals to change the situation - without legally mandating no drive days - would rely on assigning property rights. If the state has the property rights to air, it could, for example, charge you a fee for every mile you drive, based on how much your car pollutes. This "fee" could be figured by an odometer check and paid with your yearly vehicle registration.*
	• *Standing in line to get tickets does, in general, impose greater costs on middle-aged people than it does on teenagers because their time is generally worth more than a teenager's time.* • *Perceptions will differ as to whether or not this is "fair." Using lines may be a conscious decision on the part of concert tour promoters who know that in the long run, it is teenagers who buy more of the*

transaction costs	*collateral products like CDs, T-shirts, and posters. They may choose to keep ticket prices lower knowing that teenagers will stand in line- because of the opportunity cost of their time - and adults are less likely to do so.* • *Raising prices may reduce the transaction costs, but you could argue that older people who could pay higher ticket prices could also pay someone to stand in line for them.* • *Some concert promoters use a lottery for ticket sales.*

student handout

Assessment:

A Brief History of the Post Office (As Told By Grandpa McCoy)

"You kids these days have it so easy. Why, back when I was a young whippersnapper like you, we had to walk 5 miles to school - and it was uphill both ways, too. And when I started to work, I made 10 cents a day, digging worms and selling them to fishermen, to support my mother and the little ones. But I tell you, worst of all, was having to go to the Post Office. In those days, stamps were 3 cents - which is about the same as 3 gazillion dollars now - and a trip to the Post Office was a nightmare. Friend of mine waited in line so long, he grew a beard. And, I think it was a law then that when you got to the front of the line, the clerk would go to the back to get something and never return! And you didn't ever dare complain to the Post Office - No sireeee! Open your mouth and next thing you know, the bills you paid show up late or get lost, and your Sears catalog order comes smashed to smithereens.

"No wonder kids today are such softies! I was down at your Post Office the other day and they were having an open house! Imagine that - sodas and balloons and prizes! And when the counter lines got long, they called another clerk from the back just to help out. Shoot, you don't even have to go down there half the time. I saw those commercials about how the Post Office is cheaper and just as fast as those guys in the brown shorts, and darned if that postal lady didn't come right to the door with a priority mail package and my new winter long johns!"

What happened to the Post Office?

Other facts you may want to know:

- In Grandpa's day, the Post Office was a government corporation, its yearly funding part of the federal budget.
- Today, the Post Office is a quasi-public corporation. Within guidelines provided by the federal government, the Post Office must cover its operating costs by charging for the services it provides.
- Federal law says that only the Post Office can deliver first class mail. Grandpa thinks that's ok since people send money , contracts, and other valuable things through the mail; it just made him mad that the Post Office

never acted like he was an important customer. Now that they do, he's happy, because he doesn't trust e-mail or faxes. Says it doesn't seem natural to just launch messages into the air like that!

Fill in the chart on the following page to analyze the changes in the Post Office.

student handout - assessment

	the old Post Office	**today's Post Office**
opportunity cost • *What decision was made about the provision of mail service and what was the opportunity cost of that decision?*		
prices • What information does the price of a stamp provide? • why does the price of stamps change more frequently today than at Grandpa's Post Office?		
incentives • What are the incentives facing postal employees and what behavior is encouraged / discouraged by those incentives?		
property rights • How can we use knowledge of property rights to explain the unresponsiveness of the old Post Office? the responsiveness of the new Post		

Office? the success of companies like UPS and Fed Ex?		
transaction costs • What does Grandpa's description tell you about transaction costs in the old Post Office? the new Post Office? the success of Fed Ex and UPS? individuals' willingness to try using fax or e-mail services		

teacher's guide to the assessment

	the old Post Office	**today's Post Office**
opportunity cost • What decision was made about the provision of mail service and what was the opportunity cost of that decision?	• *The decision was made that mail delivery was to be a government function, funded largely by taxes.* • *The opportunity cost of the decision was giving up the benefits - mostly in efficiency and responsiveness - of providing mail service through a competitive market*	• *A decision was made that the Post Office must be self-supporting.* • *The opportunity cost of that decision was giving up low-priced stamps and consumer tolerance for the inefficiencies and lack of responsiveness.*

prices • What information does the price of a stamp provide? • why does the price of stamps change more frequently today than at Grandpa's Post Office?	• *Stamp prices provided no information - either about how much consumers wanted or valued the service or about how much it cost to provide the service in comparison to substitutes.*	• *Stamp prices still do not provide accurate information about consumers' demand for the service. However, they do provide a little more information about how much it costs to run the Post Office - information that consumers may use in voting or in offering feedback to their elected representatives.*
incentives • What are the incentives facing postal employees and what behavior is encouraged / discouraged by those incentives?	• *Postal employees are paid for their time.* • *There is no reward for doing more work and no penalty for doing less.* • *Thus, the incentives encourage workers to take a long time to perform tasks - both because there is no penalty for being slow and because there may, in fact, be a reward in the form of overtime pay.* • *Workers are also discouraged from working harder than anyone else. There is no reward for doing so, and there may be a penalty in the*	• *Postal employees are still paid for their time. However, because the Post Office must be self-supporting, it now must compete with alternatives - e-mail, fax service, package delivery companies, and messenger agencies for the customer's business.* • *This changes incentives for the managers of the Post Office, who must make sure that the operation can cover it's costs and retain enough business to justify its existence. Hence the improved counter service, open house parties, etc.* • *This also changes the incentives for workers in that a*

	form of colleagues who resent that they're being made to look bad. • *Consumers have no alternative to the Post Office. Workers thus have "guaranteed jobs" and no reason to be responsive to customers.*	*decline in customers means a cut in jobs.*
property rights • How can we use knowledge of property rights to explain the unresponsiveness of the old Post Office? the responsiveness of the new Post Office? the success of companies like UPS and Fed Ex?	• *The Post Office has no owner - no residual claimant who gets the profits and bears the losses.* • *Taxpayers fund the Post Office and pay the salary of the Post Master General. He is not motivated by profit.*	• *There is still no "owner" of the Post Office, but new legislation means that the Post Office must operate as if there is - in other words, as a corporation. While not necessarily trying to make a profit, the Post Office does try to avoid loss, and this makes it more concerned about customers.* • *Competitors to the Post Office began with the disadvantage of being legally unable to deliver first class mail. Motivated by profit, they looked for things consumers wanted. They found the opportunity to profit in service and convenience.*

transaction costs • *What does Grandpa's description tell you about transaction costs in the old Post Office? the new Post Office? the success of Fed Ex and UPS? individuals' willingness to try using fax or e-mail services?*	• *Transaction costs in the old Post Office were extremely high. However, there were few acceptable alternatives and customers paid the transaction costs rather than go without the service.*	• *Transaction costs in today's Post Office are much lower as the Post Office must compete with businesses who realized that their chance to profit was in reducing or even eliminating transaction costs.* • *Today, when transaction costs at the Post Office rise, more and more people switch to alternatives like package delivery, messenger, e-mail, and fax.*

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EDSU
Conclusion

1. It is time to evaluate our initial proposition and revisit our organizational analogy.

   - Using principles of economic analysis and relying on the explanatory power of concepts like opportunity cost, markets, prices, incentives, property rights, and transaction costs, we have shown that weakness in the economic leg of the Soviet "3-legged table" was inherent in the system from the beginning.
   - During the years that the system reached maturity, the late1970s and 80s, the problems grew and became manifest.
   - The economy was running out of steam and was less and less able to meet the technological and managerial challenges of the modern era.
   - The Chernobyl disaster in 1986 demonstrated the lack of technological quality and control.
   - The Soviet army, believed to be the most powerful in the world, took a serious beating in Afghanistan.
   - President Reagan's Star Wars challenge made Soviet leadership realize that the economy was not powerful enough to enable it to stay in the race for technological supremacy.
   - The inadequacies of the health care system were inflicting huge costs:
     - there were acute shortages of medical supplies;
     - in 1990, fewer than one-half of draft age men were fit for military duty;
     - illness kept an average of 4,000,000 workers from their jobs each day (as opposed to 287,000 in the US);
     - and infant mortality rates had risen from 22.9 deaths per thousand in 1971 to 33 deaths per thousand in 1989;
     - in rural areas, where one-third of Soviets lived, half the hospitals had no sewer connections, and eighty percent had no hot water.

2. Added to these difficulties was the fact that another leg - the moral-cultural structure of Soviet society - had begun to wobble.

   - The Soviet populace no longer was sustained in its willingness to bear collective opportunity costs by the revolutionary enthusiasm that had marked the 1930s, World War II, and the triumphant years of the Cold War.
   - The level of education of Soviet citizens had increased to the point

where people could spot the contradictions of official propaganda.

- Coupled with this higher level of education was a growing awareness of the lies and atrocities of the Soviet past, and with awareness came a growing rejection of all aspects of the Soviet system.
- Advanced and increasingly available telecommunications offered access to alternative sources of (worldwide) information and points of view.

3. The economic system experienced decades of increasing dysfunction, but it was only when this weakness was coupled with upheaval in the moral-cultural structures that the political and social upheaval of the late 1980s brought the Soviet system to an end after 70 years.

Glossary

Capital Goods - Goods used in the production of other goods and services, e.g. buildings, machines, and tools.

Capitalism - Often used to describe market-based economies where prices are set and goods allocated through market interactions of producers and consumers. The right to private property is an essential feature of capitalism.

Centrally-directed economy - An economy in which the basic economic questions (WHAT to produce, HOW to produce it, and FOR WHOM?) are answered by government.

Collectivization (of agriculture) - The practice of organizing production, ownership and work in a group process in which everyone has an equal share.

Command economy - see "centrally directed" economy

Consumer Goods - Goods and services purchased by consumers for their use (as opposed to use in production of other goods and services).

Demand - The relationship between prices and the corresponding quantities of a good or service buyers are willing and able to purchase at any given point in time.

Entrepreneur - One who is willing to risk loss in the attempt to make a profit from reorganizing market resources from low-valued to high valued uses. Entrepreneurs undertake the task of coordinating the employment of land, labor, and capital to produce goods and services. As a result, they claim the residual - profit or loss - and are therefore sometimes referred to as "residual claimants."

GOSPLAN - The central planning body that set industry goals for the Soviet Union.

Incentives - Rewards or punishments for actions.

Income - Rent, wages, interest, and profit; payment received by the owners of productive resources, including labor.

Innovation - The application of new processes, methods or organization, and technology to production, usually undertaken to reduce costs of production and/or to improve the quality of goods produced.

Investment - Expenditures on capital goods (factories, office buildings, machinery, equipment, inventories, etc.) used to produce other goods and services. The opportunity cost of investment spending is lower consumer spending. For a nation, the opportunity cost of investment spending is lower consumer spending.

Kolkhoz - (plural, kolkhozy) Soviet collective farms.

Market - A network of buyers and sellers exchanging goods and services.

Na levo - The Russian terms for the practice of buying scarce goods and services through privately arranged, illegal exchanges, often with goods stolen from government enterprises. The literal translation is "on the left, " but the has the connotations of "under the table."

Opportunity Cost - The most highly valued sacrificed alternative; the value of the "next-best" choice.

Price - The amount of money (or other things) that must be given up to buy a good, service or resource.

Productivity - The measure of output per unit of input. Labor productivity is most frequently reported as output per worker.

Profit - The difference between total revenue and total cost. The residual revenue left after all costs of production and doing business have been paid.

Property rights - The conditions of ownership, including the rights and restrictions regarding use, ownership, and sale.

Residual Claimant - see "Entrepreneur."

Scarcity - Scarcity means that people cannot obtain as much of something as they want, without making a sacrifice or bearing a cost. Scarcity defines a relationship - between the amount of something we want and the amount that is available.

Supply - The relationship of prices to the quantities of a good or service sellers are willing and able to offer for sale, at any given point in time.

Tolkach - (plural tolkachi) People who used their created personal networks that enabled them to locate items needed by factory managers. These unofficial but necessary procurers often had huge expense accounts that allowed them to bribe and to access the black market in stolen state goods and resources. Although illegal, their activities were largely ignored in face of common recognition that production could not go on without them.

Tragedy of the Commons - Describes the phenomenon of overuse of resources held in common (i.e. by the "public" or by government). The overuse occurs because the failure to adequately define property rights means that no one has an incentive to conserve or maintain the resource and all have an incentive to use the resource before others do.

Transaction Costs - Non-monetary costs such as time and search costs that may not be reflected in the money price of a good or service.

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